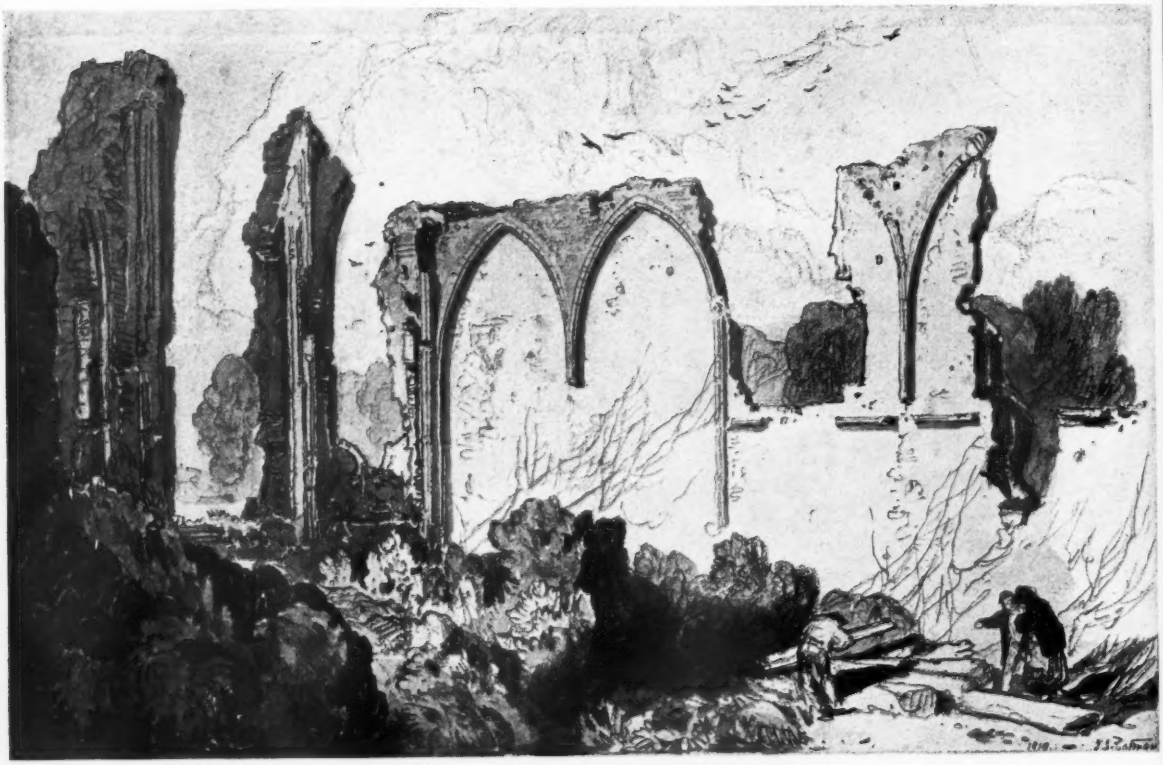
JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

THIRD SERIES

VOL. 46. No. 14 — 22 MAY 1939

CONTENTS FOR 22 MAY 1939

	Page
Ruins behind Free School, Thetford, Suffolk, by John Sell Cotman	*Frontispiece*
Journal	699
Photography for Architects. B. Westwood [*A.*]	701
Westminster Abbey. Arthur D. Sharp	706
Annual General Meeting : Discussion on Annual Report	711
Land Settlement Schemes in Wales. T. Alwyn Lloyd [*F.*]	719
A New Principle in Brickwork	725
1939 Election : Nominations to Council	728
Attendances at Council Meetings	729
A.R.P.	730
Book Reviews :	
The P.E.P. Report on the Location of Industry. John Dower [*A.*]	732
Some Technical Books	734
Cluniac Architecture. A. Hamilton Thompson [*Hon. A.*]	735
Three Thousand Years of Castles. H. L. Honeyman [*A.*]	736
Evelyn's London	737
Cardiff's Civic Sense	737
Review of Periodicals	738
Accessions to the Library—XII	741
Correspondence :	
Mr. Frank Lloyd Wright's Visit. P. Morley-Horder [*F.*]	743
A.R.P. Policy. A. P. Hodgson [*A.*]	743
Borough of Bexley. G. J. Buckingham [*F.*]	744
Obituaries :	
D. Pugh-Jones	744
T. M. Cappon	744
J. E. Jefferson	744
W. B. Savidge	744
Notes	745
Membership Lists	747
Notices	749
Competitions	750
Members' Column	751
Minutes XIII	752
Architects' and Surveyors' Approved Society	752
Architects' Benevolent Society	752



RUINS BEHIND THE FREE SCHOOL, THETFORD, SUFFOLK

One of the 79 drawings by John Sell Cotman to be exhibited at the R.I.B.A. from 6 to 28 June. see paragraph in the JOURNAL

JOURNAL OF THE

ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 46 3RD SERIES 22 MAY 1939 No. 14

Journal

Architects and the Schedule of Reserved Occupations

The R.I.B.A. Emergency Panel have now been informed by the Ministry of Labour that it has been decided to reinstate architects in the Schedule of Reserved Occupations (Provisional) with an age limit of 30.

Architects' Conference in Dublin

If all the stories are true that still pass around of the glories of Dublin entertainment in 1931, when the Architects' Conference was last and first held there (and some of the stories of banquet and refreshment approach the fabulous), the architects who go to Dublin this year are in for a good time. We can admire the foresight with which the Royal Institute of Architects in Ireland devise each time an excuse to make their conference exceptional—last time it was the first architects' conference ever held in Ireland, this year they have contrived even more convincingly to celebrate the Institute's centenary. The conference starts on Wednesday, 21 June, when the R.I.A.I. give an informal reception to their visitors; on the following day the show opens in earnest with the inaugural meeting in the morning in the Mansion House, a garden party in the afternoon, and the banquet, also in the Mansion House, in the evening. On Friday morning, Mr. C. H. Aslin [*F.*] will read a paper on the work, duties, and responsibility of the official architect, and in the afternoon the conference will distribute itself about Dublin and the neighbouring country on a variety of tours; in the evening there is a centenary conference dance at Lord Iveagh's house, St. Stephen's Green. Saturday is most simply marked in the programme: 11 a.m.—Visit to Guinness's Brewery.

All of this and much more is given in the conference programme, which was issued with the last number of the JOURNAL. Members are asked to fill up the application form for tickets and to send it in to the R.I.B.A. soon.

The Cotman Exhibition

The exhibition of the R.I.B.A. Kitson collection of drawings by John Sell Cotman will open on 6 June, and will stay open until 28 June. In its way this will be one of the finest exhibitions ever held by the R.I.B.A. Cotman is among the greatest, and in many people's estimation the greatest, of all English water-colourists and draughtsmen, so for us to be able to exhibit some 80 of his works is an event of no small importance. The group of drawings which Mr. Sydney Kitson left to the R.I.B.A. consists of all the definitely architectural subjects from Mr. Kitson's collection, and is one of the largest specialist groups representing one aspect of Cotman's work to be found anywhere; the collection is therefore of remarkable importance, but its importance is not the thing that will bring people to the exhibition so much as the affection which architects, especially, feel for a man whose architectural sense had such consummate realisation in his skill with brush and pencil. The lovely simplicity of his washes and the intensity of expression in his pencil lines have never been surpassed. It was Cotman's feeling for architectural subjects that first attracted Mr. Sydney Kitson to him; that and the

interest which was naturally excited in Kitson for anyone who knew and painted his own Yorkshire started him off on his career as one of the keenest and ablest students of Cotman's work there have been.

The acceptance by the R.I.B.A. of this great treasure from one of the Institute's best members and friends implied an obligation not to house it, merely, in the secret seclusion of the library, but also to make the collection known and always easily available to our members and all students of Cotman's work. Public exhibition is, perhaps, the first stage of the fulfilment of this obligation, to make it generally known that Mr. Kitson's collection of Cotman's architectural drawings is here. Every possible effort is being made, in justice to the value and quality of the collection, and also in justice to Kitson's memory, to make the exhibition a good one. We have had the best possible guidance in every matter to do with the exhibition from Mr. Paul Oppé, who has edited the catalogue and written its preface. The catalogue will be a complete record, and will be illustrated by some of the finest drawings.

An Exhibition of Mr. Guy Dawber's Drawings

There will be a private view on Tuesday, 6 June, open, of course, to all members, and on 15 June there will be a special evening party, about which more is said in a note below. At the same time as the Cotman exhibition there is to be an exhibition of water-colour drawings by the late Sir Guy Dawber. This will be opened at 3 p.m. on Tuesday, 6 June, and will continue until Saturday, 17 June.

A Special Informal Meeting—Picture Gallery Lighting

On the evening of Thursday, 15 June, there will be an informal meeting at the R.I.B.A., when Lord Lee of Fareham [*Hon. F.*] will describe the lighting and structure of his new picture gallery at Avening in Gloucestershire. In this new gallery, in which is hung his own valuable collection of paintings, Lord Lee has been remarkably successful in solving the most difficult of all the problems that concern gallery owners or curators and their architects, and has produced conditions of lighting, both by day and night, that are possibly unrivalled in this country. On the same evening the Cotman drawings will be on exhibition; it will, in fact, be an "art" night, open, of course, to all members and their friends, and it is hoped also that most of the leading gallery directors and art experts in London will be present, so that the discussion should be interesting and authoritative. Coffee will be served from 8.15 p.m., and after Lord Lee's meeting there will be refreshments. *Members who hope to come are asked to write to the secretary* as soon as possible, so that some idea can be formed of the numbers for whom arrangements must be made.

Frank Lloyd Wright

Mr. Frank Lloyd Wright's visit is over now, and the London architectural world, a bit dazed perhaps, is looking around to see how many of its old beliefs, or new ones, too, remain intact after the big bang. By the force of his personality, and the force of his provocative ideas, Mr. Lloyd Wright succeeded in making us stop and listen and think out quite a lot of things anew. It is too early to gauge how deep are the sympathies that have been made to exist between London modernism and Taliesin. The whole argument has, as it were, been left in the air. The atmosphere of the meetings somehow was inimical to coherent and constructive discussion; probably there never can be really good discussion at meetings so large and so charged with feeling! Nevertheless, there were many there left with their doubts unresolved who, if circumstances had allowed, would easily enough have been satisfied.

Mr. Wright's critics and Mr. Wright seemed so easily to get at cross purposes, Mr. Wright presenting a formula, a general pattern of development, in a Marxian way, extending rationality in human problems to include spheres of life in which radical changes are all the time taking place; the critics all the time looking for an exactitude of solution which this extended reasoning could not allow. All along mystics have been asking such questions as "Please, Mr. Wright, where do I put the soil pipes in organic architecture?" and have had in reply answers which, to the people who put such questions, are certainly inadequate, and even frivolous, or seem dully of the "render unto Cæsar" class of answer. But there is a lot more that can and will be said than ever has been said in the last few weeks, and certainly more than can be said in a paragraph here. Finally, however, once more a word of gratitude, not only to Mr. Wright, but also to the Sulgrave Manor Board, who made his visit possible.

The lectures are being published (by Messrs. Lund Humphries) in a crown 4to book with about 24 pages of illustrations of Mr. Wright's buildings, an article on education at Taliesin, and a bibliography of Mr. Wright's writings and a list of his works. The cost of the book will probably be six shillings. Copies can be ordered now from the publishers.

An A.B.S. Dance at the R.I.B.A.

The Architects' Benevolent Society are proposing to hold a dance at the R.I.B.A. on Friday, 30 June. The tickets will be 10 shillings each and can be ordered from the Secretary of the A.B.S. c/o the R.I.B.A. The dance will give a first-class opportunity for members to show their support of the Benevolent Society and to have an enjoyable evening. Members living out of London are asked to organise parties if they can do so; if this is done the A.B.S. secretary will attempt to make special arrangements with the railway companies. Full details will be published later.

Hambledon Mill, Buckinghamshire

PHOTOGRAPHY FOR ARCHITECTS

By BRYAN WESTWOOD [A.]

with illustrations by the author

Photography has become so much a part of our daily lives that it is unnecessary for me to stress the value of a camera in the ordinary practice of architecture. For the purpose of this article I shall only discuss its uses as far as they affect the choice of apparatus. Before buying a camera it is well to consider just what kind of work you wish to do with it. Even when the scope of work is limited to architecture it is impractical, but not impossible, to use one camera for every type of work. Before going further it is worth mentioning that all cameras will take photographs when lighting conditions are favourable. The more expensive instruments are not subject in the same degree to limitations imposed by poor light, but they do not necessarily take a straightforward simple snapshot any better. Briefly, the different types of use by the architect are as follows :

(1) Progress photographs for reference only.
(2) Details and close-up photographs.
(3) General photographs to illustrate the architectural qualities of buildings. Occasionally, these may be required to be enlarged to a considerable size.
(4) Interiors and general views taken specially for exhibition purposes.

Any good camera suitably used will make some sort of a showing at any or all of these kinds of work, but under each heading the types of camera which produce the best photo with the least trouble and skill in my opinion are as follows :—

(1) Leica or similar miniature camera using cinema film.
(2) Small reflex, such as the Rolleiflex.
(3) Small reflex, or any good quality folding camera, preferably with a range finder.
(4) Half-plate stand camera such as the "Sanderson."

In the matter of cameras there is so much advertising nonsense and biased enthusiasm that it cannot be too strongly emphasised that "the proof of the pudding is in the eating." My reasons for the selection above are as follows :—

(1) For progress photos, which are not primarily intended to be masterpieces of composition, nor to be greatly enlarged, the Leica is ideal. It takes 36 photos on one film, and is quick and convenient to use. Other

Apparatus :

1. *The author's camera; "Makina" folding camera with range finder*
2. *Typical folding camera*
3. *Ensign Midget and case*
4. *Film clip and pin*
5. *Developing tank with special film holder*
6. *"Apron" type film holder for a similar tank*
7. *Film storage album*
8. *Burroughs Wellcome exposure calculator*

types of camera will do this work equally well, but are not so convenient, or are more costly in consumption of film.

(2) For close-up work, or for so-called "Art Photos," it is easier to compose a subject or grasp quickly the best lighting effects in a reflex view finder than any other. In my opinion the small reflex, such as the Exacta or the Rolleiflex, or the more bulky "N. & G.," is incomparably better than other types.

(3) General architectural photos—In this group, I think the comparatively cheap folding camera taking a $3\frac{1}{4}$ by $2\frac{1}{4}$ film is as good as any. It sometimes has a rising front which is useful, and it is as portable as the miniature camera because, although larger, it is equally inconvenient to have in one's pocket, and no more so. (The only camera I have had any experience of which is small and light enough to carry in one's pocket indefinitely is the "Ensign" midget. This is a cheap folding camera which is limited in its scope, but capable of taking excellent photographs when lighting conditions are favourable.)

The small reflex, again, is very useful for this kind of work, but it is more expensive and does not generally have a rising front, although this is not a serious disadvantage normally, because, if really parallel lines in a very high building are required, there is nothing for it but to get busy with a stand camera. Minor deviations from the parallel can easily be corrected when enlarging as I shall explain in a later article. This process is severely frowned on by the purists, but I find it quite satisfactory for all ordinary purposes.

(4) Interiors—Any of the foregoing cameras will take interiors, and most of them will do the job well, especially if wide angle lenses are bought, but the old-fashioned stand camera will do the job better than any of them, and such a camera can generally be bought complete with lens for less than the cost of a good wide angle lens accessory to a miniature camera.

From the foregoing you will have inferred that I am not a miniature camera enthusiast. My reason is that, while appreciating the precision and usefulness of this type of camera for certain work, I find that the ordinary user does not get nearly such good results as a similar user of a camera taking larger negatives. The expert can produce perfect marvels with miniature cameras, but in the architectural line I know of nothing which he could not do equally well, if not better, with any of the other types, providing he used the same quality of film and the same technique of development.

The reasons for the low standard of results produced

by the ordinary user of the miniature camera are as follows, in order of importance :—

(1) Camera Shake—This is fairly constant, I find, whatever camera is used, but the greater the degree of enlargement, the greater the loss of sharpness. The lens is usually blamed for this, and in an attempt to get sharper results it is stopped down and a longer exposure given, thus making things worse. Especially with small cameras which have great depth of focus, I think in general it is better to use a short exposure, such as 1/50 second, even with the largest aperture available, than to stop down and give a longer exposure.

(2) The negatives are spoilt by over development. The effects of this are not nearly so bad on a larger negative which does not require a high degree of enlargement.

(3) Scratches—The usual method of getting out the roll of cine film to show a friend one's latest negatives results in scratches which are disastrous.

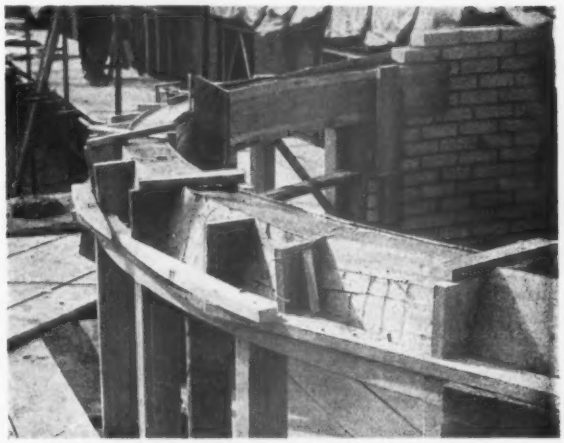
(4) The tendency to take far too many photos without really concentrating on any of them.

The important disadvantage of the larger camera is the greater care required in focusing. I, personally, do not object to the modest bulk of most modern cameras. I dislike carrying any camera ; whether it is the size of a Leica or a folding Kodak is of no consequence. It is only when the large old-fashioned reflex, or a half-plate stand camera, has to be used that bulk is a serious matter.

Summarising my advice as to the camera to use for ordinary purposes assuming you do not wish to spend a great part of your spare time in a dark room, the folding camera with a range finder, taking the No. 2 Brownie size film ($3\frac{1}{4}$ ins. by $2\frac{1}{4}$ ins.), or the small reflex taking a picture $2\frac{1}{4}$ ins. square is best. The latter type is larger and more expensive, but is a real joy to use.

Turning to lenses and considering them purely from first principles it is easy to see why the lenses of miniature cameras have to be of such superb quality and therefore expensive. Since no lens gives absolutely perfect definition, the amount of blurring is known as the " circle of confusion." Now suppose we take two lenses A and B, where A is designed to cover a negative 1 in. square and B 3 ins. square, and the final picture required is, say, 6 ins. square. In order to obtain the same definition in the final picture lens B can have a circle of confusion three times as great as lens A. In other words, a lens of medium quality designed for a large negative in this respect will give just as good a result as a first quality lens on the small negative.

As far as films are concerned I find that first-class results can be obtained with any of the well-known makes provided that the correct type is used for the particular end in view. Unless special speed is required, the fine grain film and reasonably fine grain developer give a better result than the very fast film



Casting a concrete lintel

Typical progress photo. The miniature cameras are very useful and convenient for records of this kind. (*See text*)

The Flèche, Stockholm Town Hall

A photograph of this kind gains enormously by the inclusion of clouds, which not only improve the photograph from a pictorial point of view, but give a more vivid record of the object itself. A pale green filter and a panchromatic film were used to get this effect

developed with ultra fine grain developer. I think it is important to keep to one kind of film, so as to know how to get the particular results you wish to obtain. For some reason dealers are usually inclined to push foreign films unless English ones are particularly mentioned, but I have not found the English ones are in any way inferior, and I use them almost exclusively.

Correct exposure is the key to successful photography, but this does not mean that it is necessary to make a fetish of it. To use an electric exposure meter for every exposure is a counsel of perfection not likely to be adhered to by the hard working architect, but it is well worth while to practise using such a meter so that it can be brought into action when unusual lighting conditions are encountered. For ordinary subjects I find the exposure calculator in the " Wellcome " handbook and diary* is an excellent guide. After using this calculator for a time I find that it is easy to remember the amount of variation between the strength of the sun at midday in mid-summer and mid-winter. If the same kind of film and developer is used each time it is easy to memorise a standard exposure. For instance, a normal subject with the sun shining unobscured at midday in August requires an exposure of one-fiftieth second with f/16 on a Selo fine grain film. From this basic exposure time one soon becomes accustomed to make the various adjustments to suit other conditions. For instance, if there is no sun at all, or a dark subject is being taken, about four times the exposure is required, etc. It is no good trying to remember all the figures on the calculator, but it is quite simple to grasp the principle of it, and apply it as suggested above, and it will be found that with usual subjects few badly under or over-exposed will result. In London or other large cities where the atmosphere is not clear, the normal exposure should be doubled or trebled. With special subjects, as mentioned before, the exposure meter is the only sure guide.

Filters and special developers alter the exposure time, but in calculating the basic exposure allow for the filter you generally use, and resist the temptation to alter the developer after reading each number of the photographic magazines. Filters can be bought in the form of gelatine, which can be cut out and inserted between the component glasses of the lens. A light green filter giving an increase in exposure of only 50 per cent. gives sufficient correction for most purposes, if fine grain panchromatic films are used, and this increase is not great enough to be a nuisance if a permanency. When cutting the gelatine keep it between two pieces of paper, and do not touch the material itself.

As mentioned already, movement of the camera is the arch enemy, accordingly, other things being equal, it is better to give a short exposure and keep the lens open to a large aperture than to stop the lens down unduly, and give a long exposure. I endeavour to give an exposure not longer than one-fiftieth second even if it means using a stop of f/2.9. When lighting conditions are bad, or a great depth of focus necessitates stopping down to a small aperture, and a long exposure, say one-tenth second, must be given, it is worth remembering that the longer the camera is held, in preparation for a final effort to keep it steady, the more likely it is to shake. For architectural or stationary subjects I make use of the " delayed action " mechanism on the shutter, so that the shutter release is not pressed at the time of the exposure, but fifteen seconds before, with obviously improved results. These remarks make it sound as if I am suffering from an advanced form of delirium tremens, but this business of holding the camera absolutely still is really important. As I am addressing architects, it should not be necessary to say much about the lighting of the subject, except to make the technical remark that subjects taken against the light require at least double the normal exposure, and in such cases it is worth while using a shade on the lens to avoid as far as possible the sun shining directly on to it.

Now let us consider development. I shall not describe the mixing of chemicals and manipulation, as the ordinary text books, or instructions supplied by the makers of apparatus, do this excellently. I shall confine my remarks to points which arise, which are not generally mentioned in such books.

If you have any facilities at all for developing films yourself, it is well worth the trouble involved. Use a tank of some sort, daylight loading if necessary. I find the type that has a spiral into which the film is fed gives the most consistently good results, but in damp weather when the film is slightly more flexible it is easier to load the kind of tank which has a celluloid apron into which the film is wound. To avoid any chance of blemishes it is best to let the film soak in water for a minute or two after it is in the tank, before pouring out and adding the developer. If the apron type is used it is best to see-saw the film through water before coiling it up in the apron as this seems to avoid the occurrence of small transverse streaks which sometimes appear.

I generally use a fine grain developer containing meritol, but I am told that the new Kodak formula containing " Kodalk " gives equally fine grain with less likelihood of staining. After development it is well to use a hardener either as a separate bath or mixed with the hypo, as this helps to avoid scratches later on. If it is possible to resist the temptation of looking at the film as soon as it is fixed, many small blemishes are avoided by leaving it in the tank to wash, and not unrolling it until afterwards. It is very easy to drop a wet film, or get small particles of dust on it, and the fewer the times it has to be handled the better. If there are slight stains, or if the water is very hard, it is worth

* *Wellcome Photographic Handbook and Diary, 1939*, published by Burroughs Wellcome & Co.

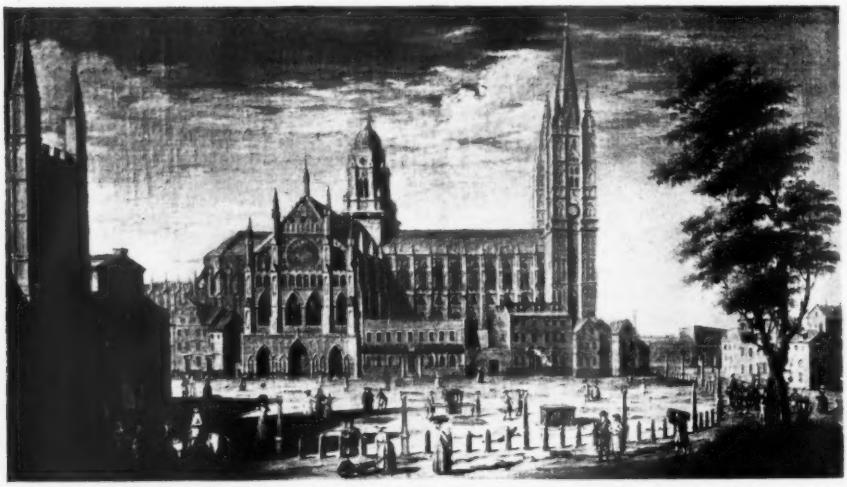
St. Gobain Glass Pavilion, Paris Exhibition

Architects: Coulon & Aduet

A photograph taken, not as a record, but to give a forcible general impression of the character of the building

while running the film through a dish of water to which a few drops of hydrochloric acid have been added. If this is too strong, blue stains will appear, but prolonged washing will remove them. Do not rinse again before drying.

Drying is a difficult matter to do perfectly. Films should be hung up where they can dry reasonably quickly, but not in a position where there is a draught or where dust is likely. Short of a proper drying apparatus, I think the linen cupboard is the best place to hang the film. It is worth while buying some large incorrodible metal clips to clip on to the bottom of the film to keep it from curling. Beads of water should be removed before hanging up. Viscose sponges have been recommended for this purpose, and they are very good when new, but small pieces of grit get lodged in them, and scratches result. Grit can be seen on a piece of wash leather and a very light stroke with a pad of it is safer than the sponge. I run my fingers, previously dipped in water, very gently down both sides. This is effective, but must be done very lightly and carefully indeed. Do not hang the film nearer than say 6 ins. to a tank or hot water pipe, or the emulsion will melt. The larger the warm cupboard the better, as even a slight circulation of air greatly aids drying. If the linen cupboard is very hot, or otherwise unsuitable, a good alternative is to hang the film up above a heated towel rail in the bathroom, if such a position is not in the line of a direct draught. When dry the best way to keep films is in " negative albums " of transparent envelopes. It is even advisable to cut up cine films into short strips and keep them in the same way, otherwise they are almost certain to be scratched eventually.



An oil painting in the possession of the Dean and Chapter of Westminster, showing the Abbey and the state of the North Transept at the end of the 17th century or the first half of the 18th century

WESTMINSTER ABBEY

By ARTHUR D. SHARP

An account of the various works of reparation to the Abbey church executed under the direction of John Loughborough Pearson, R.A., during the years 1884 to 1897

The writer of this paper was employed by Mr. Pearson from the beginning of the work in making the preliminary surveys, searching for evidence of the original design in the British Museum and elsewhere, making detail drawings and generally superintending the work during execution, and desires to place on record an account of what was done.

Three separate parts of the building were dealt with during the time specified.

The first section undertaken was the south side of the choir extending from the south transept westward as far as the position of the screen carrying the organ, the part, that is, which was built between the years 1260 and 1269. This had been refaced as part of the great scheme of restoration initiated when Sir Christopher Wren was appointed surveyor by his old Oxford friend, Dean Sprat, in 1698. An Act of Parliament passed in the previous year stated that " the Collegiate church of St. Peter, Westminster, is now in great decay and (in case the same be not speedily repaired) will become wholly ruinous " and granted one-sixth of the duty on coal imported into London for the repair of the fabric.

Subsequently in 1710 the Queen Anne Act for building fifty churches in London provided " four thousand pounds per annum from the duty on coals for repairing and finishing the Collegiate Church of St. Peter, Westminster, and the Chapels."

Writing in 1681, Henry Keepe had described the north front as " a ruinous building," and the condition of the rest of the church can have been but little better. The stones used by the original builders were Caen for the dressings and Reigate for the ashlar face, neither of which are durable in the London atmosphere. Sir Christopher Wren recommended for the repairs what he described as " a better stone out of Oxfordshire, down the river, from the quarries about Burford." This same stone had already been used in the interior of St. Paul's Cathedral. The work started from the east windows and was continued on the south side, Captain Edward Tufnell being responsible for carrying it out. He was master mason of the Abbey for twenty-two years, dying at the age of forty-one in September 1719. On his monument on the wall of the south walk of the cloister he is described as " Edward Tufnell Architect who remade and adorned the South and East sides of the Church." The method employed was that which has been described as " flagging." The old decayed surfaces and mouldings were cut back

and thin slabs of stone not bonded into the wall were hung on by means of iron cramps ; the new mouldings where such were necessary being of the psuedo-Gothic character which may still be seen in parts of the building. The inevitable result of the method employed was that the iron cramps rusted and split the stones, which lost their attachment to the body of the work behind.

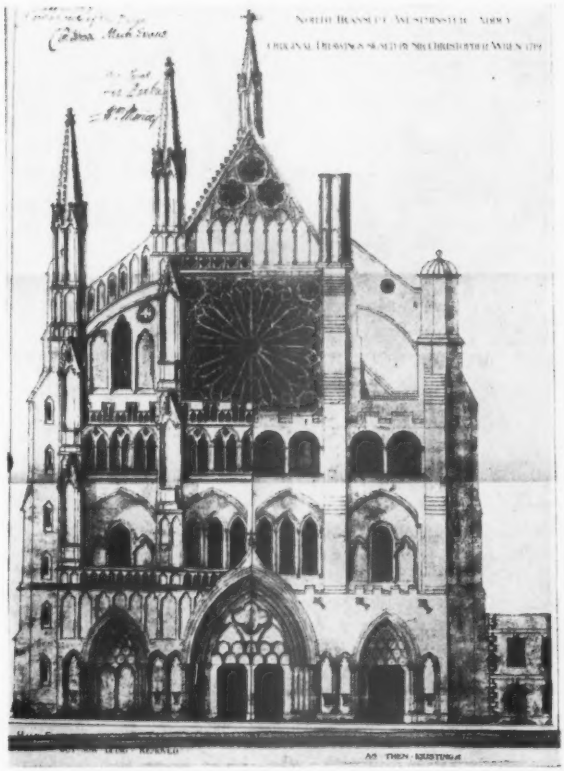
When the eighteenth-century casing had been removed from the south side of the choir, west of the transept, interesting remains were found of the original design of this part of the church. The windows of the clerestory and of the aisle were flanked by narrow acutely pointed blind arches carried by detached shafts which were entirely obliterated by the eighteenth-century casing. In the reconstruction the new stone was solidly bonded into the rubble backing and the original design of the windows with the blind arches reinstated. In the earlier eastern part of the church including the transept and apsidal end the blind arches did not occur ; a fact which tends to confirm the accepted opinion that this western part of the choir was the work of a different architect from the one responsible for the transept and apse.

The next and most important section to be undertaken was the façade of the north transept, which had been entirely refaced and considerably altered in design by William Dickenson early in the eighteenth century. His drawing for this was made in 1713, but not approved by Wren till 1719, when the latter attached his signature. As the work to the church was being paid for under an Act of Parliament, the death of the Queen in 1714 may have delayed its progress.

The porches had already been dealt with by Sir Gilbert Scott and his son Mr. J. O. Scott. A strong platform was erected over these porches to protect persons entering the church from the stones that were constantly falling from the ruinous work overhead.

The condition of the building has been well described in the Wren Bicentenary Memorial Volume by Mr. Somers Clarke, F.S.A., who was one of Sir Gilbert Scott's assistants.

After referring to the method of " flagging " employed at St. Paul's, he says, " Possibly many of my readers will never have seen a specimen of ' flagging'. The north front of the north transept of Westminster Abbey Church was a fine example, but in the Gothic manner—Portland stone slabs stood up on end and with the most precarious attachment to the venerable walls behind. You could see down horrid clefts six or eight feet deep between the old and the new. Although not begun until the first quarter of the eighteenth century, it was falling down by the middle of the nineteenth." Mr. Clarke was in error in describing the stone as Portland. It was the Oxfordshire stone from the Burford quarries as recommended by Wren.

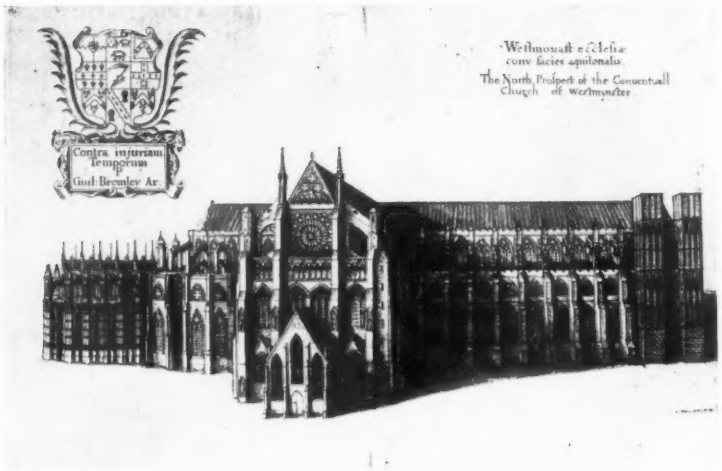


William Dickenson's drawing of the façade of the North Transept, made in 1713 and approved by Wren in 1719. The right half of the drawing shows the façade before replacing and alteration

Not only was the face coming away from its backing, but the stone itself was so rotten that large pieces of the mouldings came off at a touch, which added to the excitement of measuring the transept from an incomplete scaffolding.

A careful survey was then made of this front. The only parts remaining of the original thirteenth-century facing were the Reigate ashlar adjacent to the lower lancet windows immediately above the porches, which was protected by the overhanging arches above, and the back wall of the arcaded passage below the rose window ; otherwise the whole transept front from the ground level to the topmost pinnacle on the gable was of the Burford stone. As Sir Gilbert Scott had used Chilmark for the porches the same stone was employed for the remaining work. Had Mr. Pearson been free to choose, he would have preferred Ketton, which he used for his work at Westminster Hall.

The first problem of importance in design that arose



Hollar's view of the North, dated 1654

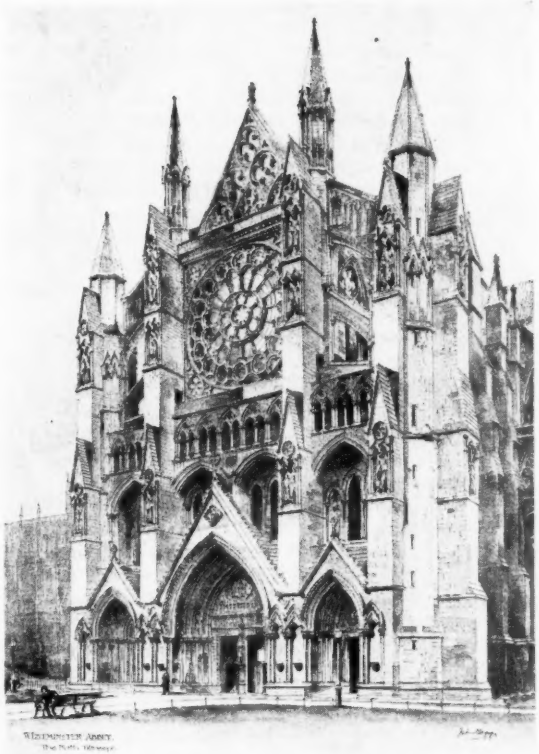
was the treatment of the arcaded passage under the rose window. This had undergone several transformations. With regard to it, Wren, in his report, says that "the front was indiscreetly tampered with some years since by patching on a little Doric passage before the great window and cropping off the pyramids and covering the staircases with silly roofs of timber and lead." Hollar's view dated 1654 shows the "silly roofs" to the staircases but not the "Doric passage." In place of the latter is an arcade of Gothic character. As drawn by him this cannot have been the original design, the setting out and relative proportions of which were clearly shown by existing indications on the original wall behind as explained in detail by Mr. Hurst Seager in a paper published in the R.I.B.A. JOURNAL, in which he discusses the design of this transept as shown from an examination of ancient prints.

In considering the evidence of Hollar's drawings and prints and those of others of the period, it is essential to remember the limitations under which these artists worked. It was, for instance, impossible to see the whole of the façade at one time. Not only was St. Margaret's Church in the way, but the precincts of the building were encroached upon by narrow streets and houses, some of which were built actually against the walls of the church itself. The drawings must have been prepared in the artist's studio from the sketches made from the building. It would be difficult for a modern draughtsman, even one possessing an intimate knowledge of Gothic detail, to produce an accurate representation if working under the limitations with which Hollar and his contemporaries were faced.

Hollar's drawings are generally praised for their meticulous accuracy and compared with that of some other artists of his time this reputation is well deserved. It is not, however, safe to rely on this accuracy too implicitly. That further investigation is necessary was pointed out by Mr. E. B. Ferrey, who was awarded by the R.I.B.A. in 1868 the silver medal for the best restoration of old St. Paul's Cathedral. These fine drawings, which are now preserved in the cathedral, are based on Hollar's engravings. In Longman's *The Three Cathedrals Dedicated to St. Paul* is printed a list of some discrepancies and errors in Hollar's plates to Dugdale's Old St. Paul's discovered by Mr. Ferrey in the course of his investigations. They are fourteen in number, mostly trivial, but include a difference in the number of bays in the choir as shown on the ground plan and in the general views. The most remarkable discrepancy, however, is not mentioned, differing patterns of tracery being shown on the inside and outside views of the great east window.

So far as the setting out of this arcaded passage is concerned, Wren's assistant, Dickenson, who was in charge of the work and really responsible for the design, seems to have found the indications of the thirteenth-century design when he removed the little Doric passage, for his reconstruction agreed with these indications in the number of bays into which the arcade was divided, but he raised the whole arcade some three feet and gave it a parapet which cut off the lower part of the rose above, thus entirely altering the original proportion of the transept façade.

The arcaded passage as it now is recovers at any rate in its general lines and position the original design of the thirteenth century. For no apparent reason Dickenson reduced the projection of the two great buttresses flanking the rose window. The restoration of these to their original projection improved enormously the design of the transept.



The North Transept, as restored by J. L. Pearson, R.A. From the drawing by John Begg

The great rose window above involved problems peculiar to itself. In his report Wren describes this window as in danger of ruin and upheld and stopped up with plaster. He proposed to rebuild it in Portland stone, to answer the south rose window, which he says had been well rebuilt forty years previously. This south window, however, had become so crazy and ruinous that at the beginning of the nineteenth century it was entirely reconstructed under the supervision of Benjamin Wyatt. It has therefore been renewed at least twice since mediæval times. While not reproducing the details of the thirteenth century, in its general lines it may retain the form of the original window. So far as the available evidence goes, the two roses north and south appear to have been alike in design, similar to that shown on an encaustic tile in the floor of the chapter house. In the eighteenth-century reconstruction Sir Christopher Wren's plan for the window was departed from in two respects. The less durable stone from Oxfordshire was substituted for the Portland he recommended, and in the design the subsidiary order was omitted from the tracery divisions in a manner that radically changed the appearance of the window. Moreover, with a view to strengthening the whole a heavy iron ring was threaded through the mullions at the springing of the outer tracery, with the result that not only was the stone decayed like that of the rest of the front but the mullions were badly fractured by the rusting of the iron ring.

While contrary to the usual practice of mediæval architects the two Westminster roses may have been alike and similar to that on the south side, to reproduce this in the north side would have involved the entire destruction of the eighteenth-century enamelled glass. The design selected by the Dean and Chapter from several alternatives, while in harmony with the architecture of the church, enabled this glass to be retained with little alteration. Attention has been drawn to the fact that the angles between the circle and the square of the window are now solid instead of being pierced as they were in the eighteenth century, and the south rose of the transept of Notre Dame in Paris has been cited as precedent for piercing these angles.

The story of this French example is of considerable interest and is told at length by Viollet-le-Duc in his dictionary under the article "Rose." According to a contemporary inscription cut on the base of the southern portal, the transept was lengthened one bay and rebuilt in 1257. The gable ends were pierced by immense roses. The existing window on the south is, however, entirely the work of Monsieur le-Duc, being part of the great restoration which he accomplished in the middle of the nineteenth century. The rose is 13 metres in diameter and the whole window, including the range of openings below, which are separated from the circle only by a narrow gallery of stone, is 18.50 metres in height. The upper angles of this rose are now and always have been solid, but those below are now pierced. Before Monsieur le-Duc's restoration the latter also were solid, being part of a previous restoration undertaken at the beginning of the eighteenth century by the Cardinal de Noailles, who, because of settlements caused by faulty foundations, reconstructed the whole of this window. One hundred and fifty years later, on account of the inferior stone used and bad workmanship, M. le-Duc tells us, the whole window had to be entirely renewed. In the eighteenth-century window (of which Mr. Pearson had a photograph) the lower angles were made solid with the idea of giving more support to the great circle. As in the opinion of Monsieur le-Duc the roses and the pierced arcade below were intended originally to be seen as one great window, in his reconstruction he caused the lower angles only to be pierced, but in order to give additional support to the great circle he introduced *crochets-étrésillons* (supporting crockets) in the angles, and built into the stonework powerful chain bonds above and below the great circle to prevent any spreading. He

also gave additional strength to the great buttresses.

The reason advanced for piercing the lower angles of the roses of the transept of Notre Dame, Paris, does not, however, apply to the north transept at Westminster, in which case the arcade beneath is solid.

The only authority of any value for the original treatment of the gable over is Hollar's etching of 1654. In his earlier view dated 1647 there is evidently no attempt to represent the detail accurately, and it is of no greater value as evidence than Wyngaerde's view of about 1550, which is more reminiscent of this artist's native Flanders than anything produced in this country in the Middle Ages. In order to explain the discrepancy between the various views Mr. Hurst Seager suggested that the gable had been rebuilt twice in the seventeenth century. But he omitted to mention yet another version, that of Keirinex which is dated 1625, suggesting yet another treatment which would, if accurate, involve the supposition of a third rebuilding within a period of a hundred years. The most reasonable view is that Hollar's plate of 1654, which is as carefully drawn as would be possible under the conditions in which he worked, represents the original design. It was, therefore, followed in the reconstruction.

It is not fair to Wren's memory to saddle it with the chief responsibility for what C. L. Eastlake aptly called "the cold and uninteresting patchwork which defaces the north transept." He certainly attached his signature to Dickenson's very sketchy drawing, but at the time he was well on towards his ninetieth year, and the signature itself reveals a very shaky hand. Three years previously in 1716, when the Court of Greenwich Hospital asked whether he was willing to continue the supervision of the work going on there, he excused himself on account of his age and resigned his position as surveyor to the governors.

The third section to be undertaken was the repair of the clerestory walls and buttresses of the eastern limb of the church.

Here the work consisted of replacing the badly decayed stonework and buttresses with new stone. The original shafts supporting the fliers (very usual features in the early French churches), remains of which were found *in situ* in the triforium, were also replaced.

It is quite certain that the apse originally had a second ring of buttresses with fliers spanning the chevet, but when these were removed is a matter of conjecture. They do not appear in Hollar's print of 1654, which shows only the intermediate pinnacles from which the fliers spring to support the clerestory walls, which were then apparently in a ruinous condition.

Wren's remarks on this part of the building are not a little curious, for he suggests that the chapels of the chevet were an afterthought of the original builders, because he considered the buttresses between them to be quite useless. He evidently did not realise that originally they were carried up to support a second ring of fliers round the apse. The pinnacles against which the inner range of fliers abutted were only four feet wide, as may be seen in the triforium stage below, and, as shown in the Hollar print, had lost their tops. In this condition they were quite inadequate to support any thrust from the groining and afforded some justification to Wren's somewhat scathing remarks on the use of what he calls "arch-buttresses" by the Gothic architects.

In order to give the necessary support the width of the buttresses was increased in the eighteenth century to seven feet six inches, so that they now overhang the arches in the triforium below.

When the work in this part was taken in hand it was very tempting to recover the original design, raising the great outer buttresses to their original height and replacing the outer ring of fliers. However, after the matter had been considered in all its bearings it was decided to rebuild them in their eighteenth-century form.

The peculiar setting out of the apse and its chapels at Westminster, which is described in detail in Scott's *Gleanings*, produced a corresponding peculiarity in the planning of the supporting buttresses and fliers, the two western ones not being at right angles to the walls of the church but inclined on plan towards the west. On the south side the main buttress which supported the fliers is carried to the ground and may be seen externally between the chapels of St. Edmund and St. Benedict. But on the north side it is missing and may have been obliterated by subsequent alterations.

Of the published plans of the apse that of the Royal Historical Monuments Commission alone shows the detail of this part correctly. The plans in Dart and Neale show the two sides alike, though they actually differ. Both Micklethwaite and Lethaby show four windows in the Chapel of St. Edmund, where there are only three. Moreover, in Mr. Francis Bond's guide he gives a photograph of what purports to be the groined ceiling of this chapel, also showing four windows. It evidently represents one of the chapels farther east.

The setting out of the Westminster apse is of peculiar interest and according to Sir Gilbert Scott unique, differing from all French examples. In his *Gleanings* he explained what he believed to be the system on which this setting out is based and gave a plan without any scale attached, and in one point apparently inaccurate, as a pier in the triforium is shown as not standing on the corresponding pier below. It would be of great interest if complete and accurate plans at the levels of the triforium and clerestory could be made and fitted on the ground plan published by the Royal Historical Monuments Commission. If this were done it would be possible to understand completely the principles which governed the setting out of this apse and its chapels.

THE ANNUAL GENERAL MEETING

HELD AT THE R.I.B.A. ON MONDAY, 8 MAY 1939, AT 8 P.M.

THE PRESIDENT, MR. H. S. GOODHART-RENDEL, IN THE CHAIR

The PRESIDENT presented the annual report for the official year 1938-1939 and moved its adoption. Mr. James R. Adamson (Acting Hon. Secretary) seconded the motion. The President then opened the meeting for discussion.

INSTITUTE FINANCES

Mr. F. R. JELLEY : I wish to move that the whole of the accounts be referred back, and I do so to direct attention to two very important omissions in them.

I do not want to interrupt the general harmony of these proceedings in any way by sounding an alarm, or anything of that kind, and as a matter of fact I have not a signature tune, and I have been a member of this Institute only for a quarter of a century ; but there are one or two things in these accounts which seem to me to require further explanation.

I am not very good at reading accounts printed in such small type as are these in the current issue of the JOURNAL, but as far as I can make out there is a mortgage on these premises of £95,000, and in addition to that there is a bank overdraft of something like £30,000. In addition to that, there is a yearly payment for bank interest alone of about half the total amount of the subscriptions of all the Associates in the Institute.

Those are rather large figures, but I will now come to something rather smaller. As I understand these accounts, the net disbursements for the publications of the Institute for the past year were in the vicinity of £3,000, but the net sales were only £210. It is not possible to go on like this. It is necessary to cut something, and my amendment is moved with the intention of drawing attention to the fact that we ought to know something more than merely that a figure of about £3,000 has been expended during the past year on publications, which are presumably to be sold, and yet the receipts are only £210.

My other main point is that there is in this Institute a society—I do not know whether it is an allied society or whether it is an associated society—which is called, I understand, the Dance Club. It sends me a comic postcard occasionally, inciting me to come and play games here and dance. I do not mind that kind of thing at all, but I have already protested in the strongest possible manner by letter to you, Sir, against the holding in this building of dances on Armistice Day. The Secretary has replied by quoting a clause of the Charter, which apparently empowers this Institute to hold dances in this building on Armistice Day ; but I would say to the Secretary, with all due respect, that he can quote clauses in the Charter until he is blue in the face, but they will not have the slightest effect upon me on a serious subject of this sort*. I move the reference back of these accounts to direct attention to the fact that there is nothing whatever in them to show what these people pay for the hire of this building for holding a dance on Armistice Day.

I feel that I should be lacking in my duty to the memory of those men whose names are on our War Memorial did not I draw attention to this fact publicly here, and I appeal to all of you here, whether you are my seniors, or my contemporaries of the War generation, or my juniors who may be in another war generation, to stop this thing.

The amendment was not seconded.

The PRESIDENT : In the absence of a seconder, it is not necessary that there should be an answer, but the points which have been put before us are obviously matters which, if no answer is given, might disturb the conscience of some people very much. The best thing that I can do is to ask Mr. Sullivan to say a word or two, because I think that this meeting ought to know the real state of affairs.

Mr. L. SYLVESTER SULLIVAN [*F.*], Hon. Treasurer and Chairman of the Finance and House Committee : I did not rise before, because I thought that other speakers might follow, and I did not know whether I should answer the points just raised now or wait for other speakers and deal with all the points together.

The PRESIDENT : I think that you might answer now the points which have just been raised.

Mr. SYLVESTER SULLIVAN : With regard to the interest on bank overdrafts, we can only show in the accounts the amount which has been paid for interest on overdrafts during the year. It is true that there is a mortgage of £95,000 on the building, but that has just been created in order to reduce the amount of the overdraft which caused the need for that payment of £4,861. That figure will not be so high in future, because the overdraft, as a result of the mortgage of £95,000, has been reduced by £95,000.

I hardly understand the criticism with regard to publications. The publications of the Institute have always to an extent been run at a loss, but that loss is being reduced year by year by the return from advertisements in the JOURNAL and in the *Kalendar* and so on, and we all hope that before long there may be a balance on the other side. I think, however, that the remarks which have been made on this subject have been made through a misreading of the Accounts as they have been presented. On one side there is an item of £3,017, and on the other side there is an item " By sale of publications, £2,613." The item of £212 is only a part of those receipts, so that I think that there must have been some misunderstanding on that point.

With regard to the dances, it may be unfortunate that a dance was held on Armistice Day, and there I am perhaps inclined to agree with the speaker ; but the idea of charging rent to our own members for the purposes of the Social Committee is, I think, unheard of. (Cheers.) I do not

*[I think Mr. Jelley has forgotten the terms of our correspondence. He asked me by what authority the dances were sanctioned. I cited the passage in the Charter that empowers the Council to manage the affairs of the R.I.B.A. I was not arguing the point with him, but simply giving him the information he asked for.—Secretary.]

believe that we should think for a moment of charging a rent to our junior members for their social occasions. We have never done it, and I hope that we never shall have to do it. That the dance was held on Armistice Day I think was an unfortunate conjunction of circumstances, but I do not think we need worry ourselves very much about it. It is not likely to happen again, and, in view of the expression of opinion this evening, I think that we can see that it does not happen again. The complaint in this respect, however, is hardly a question of finance, but is more a matter for the Social Committee.

Mr. JELLEY : It was advertised that members of the public could obtain entrance to this dance by paying 5s. Where do these 5s. go to ?

Mr. SYLVESTER SULLIVAN : The money does not go to the funds of the Institute, but towards the expenses of running the social side of the Institute for the junior members.

Mr. JELLEY : It does not appear in the Balance Sheet. There is no reference to anything of this kind in the Balance Sheet.

Mr. SYLVESTER SULLIVAN : No, because it does not come into the Balance Sheet.

Mr. JELLEY : Why not ?

Mr. SYLVESTER SULLIVAN : It is not a matter for the Balance Sheet, but for the Committee which runs the dances.

Mr. A. L. ROBERTS [*F.*] (*Member of Council*) : May I remind you that the publications are free to the members of the Institute ?

Mr. T. A. DARCY BRADDELL (*Member of Council*) : Is there anything so dreadful in having a dance on Armistice night ? At eleven o'clock on Armistice morning the world stands silent to mourn its dead. In the evening, it celebrates the world's return from the lunacy of war to peace and sanity. I really cannot see why there should be so much fuss made because there is a dance in the evening. (Applause.)

The PRESIDENT : If I may express a purely personal opinion on this matter, it seems to me obvious that there are two views, both of them perfectly easy to support by feeling and, I think, by reason, of the way in which the evening of Armistice Day should be regarded, so that it would be quite unfair to censure the Social Committee for having arranged a dance on that night. In view of the fact that a strong opinion has been expressed against it, an opinion I think many members might support, I suggest that probably it will be regarded as a day to be avoided if possible in the future ; but I do not think we can also absolutely commit the Institute to anything like that on a matter on which feeling is not unanimous. I think this discussion has been useful in showing us that there is a certain body of opinion, which Mr. Sullivan took into account in his speech, that would regard it as more suitable for that day to be avoided. There are a good many difficult days like that which come in the Institute's year. We cannot, however, expect to tie the Social Committee down about it now. There will be a new Council and a new Social Committee in future. We will, therefore, just record the opinion that has been expressed. (Applause.)

A.R.P.

Mr. R. C. FISHER [*A.*] : I should like to put a question to the Chairman of the Air Raid Precautions Committee. In view of the urgency of this matter, can the Chairman of this Committee tell us of any further work which has been done or of any further sub-committees which have been set up by that Committee since this Report was printed ?

Mr. THOMAS E. SCOTT [*F.*], Chairman of the Air Raid Precautions Committee : I am not sure of the dates, but I think that it is since the Report of the Committee was written that sub-committees have been set up to deal with three aspects of air raid precautions : The first to deal with the carrying out of the Government's proposals in connection with existing buildings, the second in connection with air raid precautions in new buildings, and the third to explore the whole general problem of protection against air attack for the civilian population. A report by the first of those three sub-committees, dealing with the Civil Defence Bill, so far as we can anticipate its ultimate form when it passes through Parliament, and with the building code which accompanies the Bill, together with a rather more amplified treatment of the problem of shelters in existing buildings, appears in the issue of the JOURNAL which bears to-day's date.

Mr. R. C. FISHER : I am extremely grateful to Mr. Scott for that very clear statement of what this Committee has done, and I should like to congratulate the Committee upon the extent of the work which it has already done, and also to say how glad I am that the Institute set up this Air Raid Precautions Committee, because I think that it does show that we as architects recognise a certain special responsibility to the public as a whole, because we are, more than other people, technically qualified to see that the general population of these islands gets the best protection which technical skill is able to afford it.

I know that this is regarded by many members of the Institute as a rather delicate question, because it is one which is regarded as being bound up with the question of patriotism. I think that it is so bound up, and I think that this is one of the things which makes it so important ; but I do not think that we want to be quite certain what patriotism really is. I do not want to yield to anyone about patriotism. My father, also an architect, fought in the last war and did not return, and therefore I do not feel that I need be criticised about patriotism ; but what I do feel is that patriotism is surely a wish for the development of the happiness and the safety of the whole population of our islands, and any lesser vision than that is incomplete. Patriotism is not merely the support of a particular government, representing a particular political party, which in turn represents particular interests or particular classes ; but we as citizens, and still more as architects, must judge a given government by the extent to which we consider that it serves the interests of the whole population.

When the Institute first began to consider the question of air raid precautions, I think that apart from setting up an Air Raid Precautions Committee we did rather feel that it was not for us to express any opinion about air raid precautions or the protection of the civil population until the Government had declared exactly what it meant to do, although the Government had not really consulted us, particularly on the general scheme of the precautions which would be best. The result of taking up that attitude towards air raid precautions was apparently that our profession was removed

from the reserved list; apparently the Government did not consider us as being particularly qualified to be of any service to it in time of war.

Now that this has happened, I understand that the Executive of the Council has "got busy," and hopes to have our profession replaced upon the reserved list. We have also appointed a representative to serve upon a committee with the hope of apportioning the work which is to be done in connection with the Government's new Civil Defence Bill amongst the architects in each locality. It seems to me that by this development we as a profession rather run the risk of being asked to design bits and pieces of air raid precautions, which are not going to fit into any comprehensive and well-planned and well-co-ordinated scheme. (Cries of "Why?")

I will tell you why I think that this is so. I hope that it is not, but I fear that it may be. The reason is that under the Civil Defence Bill the onus is put on the building owners of all buildings to provide a measure of protection for their employees in these buildings, and, although I am aware that the Government has asked the local authorities to carry out limited surveys—limited in scope—I do not think that that is sufficient. The instructions of the Government to the local authorities define the nature of the surveys which they are asked to carry out.

A MEMBER: I do not think that you are correct.

Mr. R. C. FISHER: This is an issue of fact, and we can verify it afterwards.

A MEMBER: Must we listen to all this?

The PRESIDENT: I cannot draw a line between architecture and politics, because no one can, but what strikes me at the moment, from the feeling of the meeting, is that possibly Mr. Fisher a little underestimates the acumen of the members of the Air Raid Precautions Committee, who are probably as much alive to the various dangers he would fear, and that we all should fear, as he is himself. We have one announcement to make on this matter which Mr. Fisher has already foreshadowed, regarding the position of architects. I think that we have also to bear in mind that if this Institute took a very definite line which would excite controversy we might shut ourselves entirely out of counsels which we now are in, and to keep in those counsels has been the guiding policy of the Institute, as far as I understand it, and has certainly been the policy of the Air Raid Precautions Committee. (Cheers.) Because we do not take everyone into our confidence it is through no wish for secretiveness but is of necessity. If you will occasionally give credit to the Committee for doing rather more than it chooses to advertise, I think that you will seldom be wrong. (Applause.)

If Mr. Fisher wishes on less general grounds to continue, I am sure that we shall be pleased to hear him; but he must take into account the feeling expressed by the interruptions, that he was getting dangerously near a political matter which would be endless in this room and quite useless; since probably we all have certain root divergences which we cannot discuss here with any profit. If you will take into account, Mr. Fisher, the interruption and this comment upon it, we shall gladly hear anything further that you have to say (unless you feel that it would not be of much advantage to say anything further).

Mr. R. C. FISHER: I should like to finish by saying that at the present moment it seems to me that there are three things which it is very necessary should be done. The first is that the Government should publish, at any rate to the profession, the results of the experiments with high explosives which we assume, at any rate, have been carried out on materials of various kinds, because without knowing those results it is very difficult for architects to be useful in designing protection for the people. Secondly, I feel that the Government should encourage local authorities to make really comprehensive surveys, including such questions as the placing of electric and other mains and the amount of the day and the night population in different areas, and so on, because it seems to me that a really good scheme of protection can be based only upon a really comprehensive survey. Thirdly, I think that our Institute might ask the Government to publish what degree of protection it considers ought to be provided in areas of differing danger. Those are just three practical points which it does seem to me are points on which the Government should take the profession into its confidence, so that we can be of maximum use to the Government on this question.

The PRESIDENT: I will not say how far I personally—because it must be a personal matter—agree or do not agree with the three obvious duties of the Government which Mr. Fisher has pointed out. I am as a matter of fact partially inclined to agree, but that is purely personal. As to the action which this Institute should take in the matter, I have already outlined what are the necessary limits to what we can do, and on matters of detail I will ask Mr. Scott to reply, because he is our expert on the subject.

Mr. THOMAS E. SCOTT [*F.*], Chairman of the Air Raid Precautions Committee: I feel that our usual procedure on this very important annual occasion has gone off the rails to some extent. My friend Mr. Jenkins is waiting impatiently, I believe, to get a few things off his chest, and he will perhaps add a little—I hope not too much—to the burden that I shall have to bear a little later. I have made a note of the points which Mr. Fisher has raised, but it might be more helpful if before replying to them we were to have some criticism, and perhaps a little praise, from Mr. Jenkins, and then I can "say my piece" afterwards.

The PRESIDENT: If, as I am delighted to hear is the case, Mr. Jenkins is prepared to speak to us, I will ask him to do so without further ado, and to unburden his chest *now*.

Mr. GILBERT H. JENKINS [*F.*]: It is true that I have a few remarks to make. If I have spoken on previous occasions, it is merely because originally I had some points to put to the meeting, and I seem to have fallen into the habit of making a few remarks since then. Last year—when I was accused, quite wrongly, of being put up by the Council—I waited in the hope that someone else would start the ball rolling, but no one did. This year I am pleased to find that someone else has done so; but there are a few points which I should like to make on air raid precautions and other matters.

I should like first of all to congratulate the Institute on taking the lead in the matter of air raid precautions. I think that they have at last got the Government to realise that architects can be helpful in matters of this kind, and that was certainly not realised in the last war. I should like to ask the Chairman of the Air Raid Precautions Committee whether there is to be some kind of pamphlet published at a reasonable price which will indicate the latest stage of the investigations upon air raid precautions and what it is considered should be done in the matter. We know that this Bill is coming out, and

we know that we as architects will have to advise many clients on the proper steps to be taken.

I cannot believe that we ought to advise owners of comparatively small buildings, with the rotten old party walls that there are in Mayfair, that those buildings can be made safe, or that at anything like a reasonable expenditure an A.R.P. shelter can be provided in such buildings. The better way would surely be to schedule all the frame buildings in London, whether they are steel or ferro-concrete, and have group shelters. Those buildings must be scattered right throughout London, and it would be far better to concentrate shelters in buildings which it is known will stand up very much better in case of air attack than buildings which may look satisfactory but which have rotten party walls and are liable to be dangerous. It is only we as architects who can appreciate dangers of that sort. I can conceive no worse fate than to be trapped in the basement of such a house when the building collapses on the top of one, and a fire breaks out, both emergency exits are blocked, and one has to decide whether to be roasted or drowned when the auxiliary fire brigade comes along to put the fire out. If such shelters are to be provided, I certainly suggest that very adequate means of drainage should be provided for them, but I think that it would be far better to have good shelters in frame buildings.

I wonder whether the Town Planning Committee, which has given careful and prolonged consideration to the Bressey Report, has urged the Air Raid Precautions Committee to suggest to the Government that the suggested underground roads under Hyde Park, Regent Street and elsewhere should be constructed now, as schemes which would be of great service both in peace and war? Have they also reported on underground car parks, constructed to serve both purposes, with maps showing where their best positions in central London would be, both from the planning and from the A.R.P. points of view?

It is a relief to turn from this awful subject of A.R.P. to the report of the Library Committee, which has had a notable first year. I should like to congratulate the Committee on the completion of the monumental catalogue which, thanks to the generosity of Sir Banister Fletcher, has been completed in the way it has. (Applause.) We have all heard with sorrow of the passing of Sydney Kitson. The Institute, thanks to his generosity, has acquired a most wonderful collection of drawings by Cotman, and I am sure that we are all looking forward with interest to seeing the exhibition.

I have one small grouse against the Art Committee, or rather its fourth sub-committee, in that its Small House Exhibition was not representative of all sides of the best modern work.

May we hope that the important diorama and exhibit for the New York World's Fair will be more truly representative of the best British work than the Small House Exhibition was. Many Americans who have a wide knowledge of the beauty of English domestic architecture will wonder what has come over us if our modern show has gone all " modernistic " and the old work has been caricatured.

FEES

The Practice Committee has evidently accomplished a great deal of good work on our behalf. I would like the Chairman to assure us his Committee is resisting any suggestion that we shall cut our fees by 2 per cent. or 2½ per cent., which will be the result of abandoning the long-established practice that quantity surveyor's fees are part of the cost of the building.

I also hope that he will make it clear to the quantity surveyors' representative on the joint Committee that, while the architects instructing them should give full specification notes and instruct sub-contractors on any estimates that are to be included as P.C. sums—in other words, do his work fully and properly—he cannot write the specification when the quantities form part of the contract, as the former has to be an exact reflection of the latter, minus the quantities and prices of the materials. No one but the quantity surveyor is in the position to secure this exact correspondence of the two documents. In such a contract, the quantities override the specification, and the architect, in drawing his details, and the builders' foreman on the works are apt to consult the latter rather than the former ; hence it is essential that the surveyor should ensure that the one corresponds with the other.

I believe the main cause of complaint by the surveyors really arises from the fact that they cut fees, in order to obtain work which might otherwise go elsewhere. One hears of quantities taken out for 1½ per cent., 1¼ per cent., or even less. This may be all right for a large factory or other building with much repetition of its units, but it is a very bad bargain for the client where the building is more intricate, as scamped quantities with scanty or vague descriptions of the work result in bad pricing and innumerable extras.

I regret to say that I find that the surveyor who cuts his fees has a very nasty way of attempting to get his own back. In one case some time ago, complete detailed drawings of the steelwork were supplied, but the surveyor was highly annoyed when detailed quantities of this were insisted upon. His usual practice was to put in a lump sum to cover the steelwork (fees 2½ per cent.), omit the provision in settling the account (for which he charged 1½ per cent.), and then measure the steel from the working drawings (fee 2½ per cent.). In other words, 6½ per cent. in all, or more than the architect's fee.

I regret to report another tendency which I believe results from these cut quantities. On a trade—say the mason or the plumber—sundry variations are made in executing the works, amounting to 10 per cent. or 15 per cent. of the priced bill. Instead of treating these as variations with fees amounting to 4 per cent. on them, you will find that the whole trade has been omitted and remeasured, the fees thus amounting to five or ten times what they should be. No wonder our Committee fears clients may commence to kick at our charges, when they are made on such doubtful methods of settling the accounts.

These hidden surveyor's fees may upset the architect's calculation of the value of the variations by some hundreds of pounds.

Cheap quantities and big variation bills should be discouraged by all architects, and I hope our members on the Joint Committee will make tactful representations to the other side in order to secure this.

FINANCE

With regard to the finance of the Institute, I do not think that even this year we are able to judge our position, because there still remains part of the Conduit Street property unsold, but I should like to voice what I believe to be the personal feeling of the ordinary member in thanking the Chairman of the Finance Committee and the others who look after the finances of the Institute for doing a very difficult job in very difficult times. (Applause.) I am sure that with their help we shall weather the storm, and I believe that next year we shall be in a very much better position to see that we are doing this. I am sure that members will join in the effort

which is being made to pay off the debt on this building and to put us in a sound financial position. Like all these Committees, the Finance Committee is not able to explain all the work which it has accomplished, but, from what I have heard of the negotiations for the mortgage, we have obtained simply miraculous terms, terms which I have never heard of on any other building, and I should like to congratulate the Chairman and members of the Finance Committee on their efforts on our behalf. Before I sit down, I should also like to thank the staff, who continue their unremitting work. (Applause.)

A.R.P.

Mr. A. L. ROBERTS [*F.*] : Before Mr. Scott replies, I should like to make a few remarks, as being an officer closely connected with A.R.P. work and in a small way with the work which has been done by the Government to guide us in what we have to do.

Some reference has been made to experiments being conducted by the Government, and I think that it is a matter on which we should congratulate the Government that they are verifying theory by practice in carrying out experiments to prove the views which they hold. The first of these experiments was tried in Winchester, and I was closely associated with it. The result was wonderful and exceeded expectations ; I do not think I am divulging any secret when I say that the support for the protection of basement refuges was proved to be capable of doing more than theory would lead one to expect. That means an economy in carrying out the work.

Probably Mr. Fisher is not aware that the last of these experiments was carried out only a few days ago, and the Government have not yet had time to make their full report ; but it should be within his knowledge that they have already issued a pamphlet on the question of shelters, and a great deal of information based upon the experiments which have already been carried out has already been given, and is guiding those who are now responsible for carrying out the duty of surveying basements for basement refuges as distinct from the provision of shelters, the determination of which was the result of a different series of experiments which have been completed, and on which their definite views are known.

It should be within the knowledge of members that the Government have already set up Regional Committees in various parts of the country to deal with this question of the survey of basements for basement refuges. In Southampton, of which I have direct knowledge, a committee has been set up under the chairmanship of the Engineer of the Southern Railway docks, and the architects have a joint representation on that committee of one member between Hampshire and the Isle of Wight and South-Eastern Associations. The first meeting was held on the 5th of this month. The survey of basements is going to be an enormous work, and I know a great deal about it, because I have already preceded the committee in certain areas in pursuing this survey.

I should like to say that the apprehension which Mr. Jenkins expressed with regard to basement refuges is in practice overcome in a very simple way. Although the Government require alternative exists masonry may fall to block an entrance, but it is a simple matter to keep a shovel and pickaxe to clear an exit, and from the experiments tried at Winchester there was not even a crack in the ceiling, which withstood a load of impact of something like 50 tons on an ordinary basement. The supports had been calculated to withstand a load of 5 tons per prop, placed at 5-ft. centres, and the result was amazing. The only inconvenience experienced was due to dust, which can quite easily be overcome by suitable screening. So far as safety is concerned, although the walls may have been rocky there was absolutely no movement. It is amazing to see what has been revealed by these experiments, as you will find in due course from the complete report.

I do submit, however, that we must be patient, and by being patient we shall be able to exercise economy in carrying out the work by a direct and simple means of tackling this very difficult problem. I myself am very closely in touch with it. Some people, I know, hold the view that shelters are more adequate, but there are difficulties in providing shelters. If you sink shelters into the ground about 4 ft you have a certain measure of safety, but subsoils are so different that it may be extremely difficult to sink to that depth owing to the presence of water, and shelters may have to be only one to three feet down, or even on the surface and protected with materials which have been advocated by the Government as providing adequate lateral protection. It will resolve itself into a question of relative cost to determine which is the best way of dealing with such problems where both methods are possible. It has fallen to my lot as a public official to order something like 780 shelters within the last week, so I think you will see I know something about the subject .

The Government are working on sensible lines, and we must give them time to deal with this important subject in a simple and direct manner. Control is being set up so that proper safeguards may be given and proper service, and in this connection I would speak very highly indeed of the co-operation between engineers and architects, who are working jointly on several committees for the benefit of their professions as a whole and for the safety of our nation. I have the greatest admiration for the way in which the engineers are co-operating with us on this important matter, and I feel certain that if people will only be patient we shall have not only a satisfactory but an economic method of tackling this very difficult subject.

Mr. R. A. DUNCAN [*A.*], Chairman of the Art Committee and Hon. Secretary of the Exhibition Sub-Committee : I should like to reply to what Mr. Jenkins said about the Small House Exhibition. I do not want to apologise for it, because it is having a great success. It was got together under very great difficulties in September last. Part of the exhibition was not really completed, but it was decided, in spite of the emergency, to carry it out, in order to keep our promise, which we succeeded in doing, to send it on tour in the provinces. It is very necessary that we should do that, because, as Mr. Kenyon, the Chairman of the Exhibition Sub-Committee, will agree, our circulation of these exhibitions is most important.

We endeavour to please everybody, and therefore we probably do not please anybody, but so far we have to a large extent pleased the public, which is what we are aiming at, and we are not only pleasing them but educating them. Personally, I think that possibly this particular exhibition was biassed in certain directions, but it had a particular story to tell, and in many ways it told it very well. It was an exhibition devised by the younger men to express their point of view, and surely the younger men here are entitled to express their point of view, even if it differs from that of older people like myself.

Mr. DANIEL ROTH [*A.*] : I hope that Mr. Roberts was mistaken when he said that the Government were carrying out experiments to prove their views. It is not very

encouraging when the views are published before the experiments are completed ; it puts one on one's guard against the results.

In the current issue of the JOURNAL I see the remark, with reference to the emergency panel, that enrolment on the central register implies that the persons concerned will be prepared in war-time to accept such work as is offered to them, but in the letter accompanying the cards which were sent out in order to complete this register there is the sentence : " The completion of the cards involves no obligation whatsoever." I suggest that there is some difference in the meaning of these two sentences, and possibly some of the cards which have been returned on the strength of the letter would not have been returned if this quotation in the JOURNAL had been presented at the time.

Mr. THOMAS E. SCOTT [*F.*], Chairman of the Air Raid Precautions Committee and the Emergency Panel : Before replying to the points which have been raised, I should like to make one or two general observations. First of all, I should like to supplement Mr. Jenkins's reference to the staff and to say that it is the experience of those who serve on Institute Committees that however much time we may devote to the affairs of the profession, we could not achieve any results at all without the invaluable support of the members of the staff. (Applause.) I say that because I should like to pay a particular tribute to Mr. Haynes and to Mr. Bird, who devote a tremendous amount of time to air raid precautions and national service work, and without whose help I am quite sure we should have made very little progress. I should also like to thank the President for the words which he used to explain the attitude of the Institute towards A.R.P. and national service, when he said that it is our desire so far as it may be possible to help the Government and not to confuse with useless criticism.

I feel constrained to refer for a moment to the technical press. I am a believer in a free press, but I think that unless criticism is intelligent and constructive it is worse than useless, and a great deal of that negative kind of criticism has appeared lately in certain sections of the technical press. It is uninformed, it is frequently malicious, and it seems to aim at criticising anything and everything that the Institute may do or attempt to do.

In a recent publication I read that planning in A.R.P. has so far been almost wholly ignored. That is with reference to the architectural profession in general, but with a suggestion that the R.I.B.A. has not issued a word on the subject. I should like to refer the writer and the readers of that article to the report of the Conference which was held here last July, where it will be seen that special attention was drawn to the qualifications of the architect as the one fitted to deal with this problem of A.R.P. because, among other things, of his ability to plan.

The article goes on to say that all that the R.I.B.A. and its various Committees have done to date is to stake a claim in measuring basements. I shall not attempt to recite the many activities of this Institute, but I should like to say that it is not our fault that a handbook on structural precautions for which we were largely responsible was not published, but it is to our credit that the contents of that handbook are closely related to most of the Government recommendations which have appeared during the last few months. (Applause.) We of this Institute may claim to have been more responsible than any other body of professional men for affording guidance to the Government. Some people may not agree with the conclusions which have been reached, but at least so far as we were concerned they were honest technical conclusions, without any political bias one way or the other.

The article which I have quoted goes on to refer to the fact that the present state of affairs is that professional men —engineers, surveyors and the like—are retained on the schedule of reserved occupations, and that the Government thinks so little of architects that they have been removed. We know that in the first instance architects were included in the schedule, and we know that a little over a week ago they were removed, for reasons best known to the Government, and perhaps known to one or two of us, but which need not be quoted here. This Institute is by implication charged with being responsible. I can only state that as soon as we heard of the decision taken by the Government, the Emergency Panel was called together and immediately decided to approach the Ministry of Labour. I think that I may tonight announce that the Architecture and Public Utilities Committee, which is advising the Government as regards the position of architects and surveyors on the central register, has made strong representations as to the undesirability of allowing the decision to stand. We have expressed the view that architects should be reinstated on the schedule of reserved occupations from the age of 30 and over ; the general view of the Committee was that many young men under thirty years of age might wish to join the Territorial Force, and ought to be free to follow their inclination ; that those over thirty ought to be restricted from volunteering for the armed forces in peacetime, but free to offer themselves for whole-time war service in their professional capacity, for A.R.P. service at their places of employment, or for any other service which may be part-time in war. The R.I.B.A. representatives on that Committee have received an official assurance that their representations are under the most urgent consideration of the appropriate Government Committee, and that a decision will be reached at an early date ; I think that it is fairly safe for me to announce that architects of 30 and over will be restored to the reserved schedule. That is perhaps a very minor achievement on the part of this Institute, but it points to the fact that some sections of the technical press might at least weigh their words and be sure of their facts before they print such unfortunate statements as have recently appeared.

I will now try to reply to Mr. Fisher's points. He referred to the need for setting up panels of architects in various parts of the country. That is already being done, and this Institute is represented on a professional advisory committee which will be responsible for administering a panel in London and the Home Counties and for advising panels in all areas where A.R.P. schemes have to be carried out. The committee includes representatives of this Institute and other professional bodies, and satisfactory results may be expected where such close liaison exists.

Mr. Fisher referred to the publication of the results of experiments. I share his regret that the results of experiments were not always available, at any rate to committees ; but it must be obvious to all of us that many results have to be regarded as highly confidential. They relate very often not to performance of foreign bombs but to British bombs, and it is just as well to avoid telling a potential enemy too much about what we are able to do. Moreover, it was the opinion of many of us that results of experiments were sometimes rather confusing, because we inclined to the view that a standard of protection is the ideal to aim at and not an optional degree of protection varied perhaps in every house or in every

street. In any case I believe that such results as the Government see fit to publish will be included in Handbook No. 5, a document to which I have already referred, and which may shortly become available.

With regard to the making of surveys, it is anticipated that the panels appointed by the professional advisory committees throughout the country will make these surveys, but in any case the responsibility for an A.R.P. scheme for a borough or district is vested in the local authority. If the local authority sees fit to make proper use of the architects, surveyors and engineers who are on the panels, there is every reason to believe that adequate surveys will be made.

Mr. Fisher then referred to the need for various degrees of protection in different areas. That is a matter upon which individuals will hold different opinions, and I do not think this is the time—at this late hour—to start a lengthy discussion on that aspect of air raid precautions. Suffice it to say that most of the committees upon which I have served have inclined to the view that varying degrees of protection in adjoining boroughs or adjoining streets might lead to a certain chaos which could only be regarded as disastrous, and that the best state of affairs is for every man to feel that the shelter which is immediately available to his house or place of work is as good as the one next door or the one down the street.

Mr. R. C. FISHER : That was not quite what I meant. What I meant was that there would naturally be a less degree of protection in some area which was remote and which was scheduled, for instance, as an area into which people should be evacuated than in an area which was more obviously a target.

Mr. THOMAS SCOTT : If that was the intention, I will repeat my view that if people are to be evacuated from vulnerable towns, they should either be evacuated to areas where the risk of air attack is so small that no sort of protection is necessary, or have the same degree of protection that they would have elsewhere, I suspect that the effects of a 500-lb. high explosive bomb would be no less intense in the middle of the Cotswolds than in Bloomsbury Square. That seems to me to be the answer.

Mr. Jenkins said that he hoped that a pamphlet would be available on A.R.P. I should again like to remind members, if it is necessary, that a report of the A.R.P. Conference which was held in this Institute appeared in the JOURNAL, and I should like to remind provincial members that conferences were held in some thirteen or fourteen of the large towns throughout the country. Many architects were apparently not aware of the conferences when they were held, or, if they were, in some cases they must have thought very little of the importance of A.R.P. ; but if they had attended them they would have found, I think, that many of the points on which Mr. Jenkins would like to be informed were dealt with as adequately as Mr. Bird and I could deal with them on that occasion.

In to-day's issue of the JOURNAL there is a report which the Air Raid Precautions Committee hope will contain a certain amount of information of use to architects engaged on A.R.P., and we hope to follow that up with other reports in the very near future. I would, however, ask members to be patient, because it takes a little time to prepare these reports for your guidance and criticism.

I believe that Mr. Jenkins also referred to the subject of underground car parks. We might debate that subject for many hours, and I can only refer him to a recent Government publication on shelters, which contains the views which many of us share.

Mr. Roth claimed that Mr. Roberts had said that the Government undertook tests to prove the views which they previously held. I do not think that that is quite what Mr. Roberts meant. The real position is that before those tests were carried out efforts were made, not only in this but in other European countries, to ascertain the demolition effects on floors and roof slabs, and certain figures had been adopted in this country. The tests which were carried out have in almost every case proved that our contentions were very much on the safe side. I think that that was the point which Mr. Roberts was making ; he was not suggesting that the Government adjusted the tests in order to prove conclusions which they had published.

There was one other point raised, namely, that when the national service cards were sent out from the Institute no reference was made to an obligation. The reason was that as soon as the National Register was mooted this Institute—so frequently charged with being last in the field—was one of the first to act. We consulted the Ministry of Labour and agreed with them the most suitable form that cards and inquiries should take so as to get going quickly. It was not until after our cards had been sent out that the Ministry of Labour decided that the letter should indicate some form of obligation, as between the individual and the Government when the individual was approached, so that there would still be complete freedom of acceptance. It was only after acceptance had been indicated by the individual that an obligation was implied to carry out the terms of that acceptance faithfully. But, as I say, we happen to have been one of the first in the field, and I think I can tell you without fear of contradiction that the register of architects now virtually complete is one of the first registers available in the country. (Applause.)

I have taken up far too much time, and I can only thank members for their patience in listening to me.

Mr. DANIEL ROTH [*A.*] : I am sorry to prolong the discussion on A.R.P., but Mr. Scott has not replied to the point which I raised. The letter which was sent out did make a reference to an obligation, and expressly said that the completion of the cards involved no obligation whatsoever. It therefore follows that those who have filled in cards have not expressed their willingness to undergo service ; but the JOURNAL implies that they have. I hope that it will be made clear that in fact they have not until they are definitely asked to and have replied in the affirmative.

Mr. THOMAS SCOTT : That is what I said.

The PRESIDENT : The obligation is not involved in filling in the card but is one subsequently entered into freely by the individual concerned. I think that that is quite definite.

There are three remaining committees which were dealt with in Mr. Jenkins's exhaustive address, the Library Committee, the Finance Committee and the Practice Committee.

Mr. GEOFFREY C. WILSON [*F.*], Chairman of the Practice Committee : I think Mr. Jenkins asked three questions. The first was that the Practice Committee should not be a party to any suggestion of cutting down architects' fees by abandoning the established practice that the quantity surveyors' fees are part of the cost of the building. This particular matter was on the agenda at the last meeting of the Practice Committee, and as it is also on the next agenda I am unable to express any opinion personal or collective,

and must take refuge in a remark sometimes heard in another place that this matter has been, is being and will continue to be dealt with by the appropriate Committee.

Mr. Jenkins's second point was that quantity surveyors should or should not—I could not quite catch which—write the specification. If Mr. Jenkins will refer to the scale of professional charges he will see that it is the duty of the architect to prepare drawings and specification. If Mr. Jenkins will also look at that illuminating document which the Practice Committee issues every year called "Professional Conduct and Practice," he will see that this year there is an index, and if he looks at the index he will see that a note was published in the JOURNAL 23 May 1938 which pointed out that it was one of the architect's duties under the Scale of Charges to prepare the detailed specification, and that if he arranged with the quantity surveyor to do this work for him he must be prepared to reimburse the quantity surveyor accordingly.

The third point that Mr. Jenkins made was a very long one, but as far as I can remember he suggested that some quantity surveyors cut their fees and then had a nasty way of getting their own back. The Practice Committee has some knowledge of unprofessional conduct on the part of architects, but if Mr. Jenkins is worried about misbehaviour on the part of quantity surveyors, I suggest he should address his complaints to the Chartered Surveyors' Institution and not to the Practice Committee.

Mr. GILBERT H. JENKINS [*F.*] : The point that I made was that at the moment I understood there was a Joint Committee of architects and surveyors meeting in order to deal with matters which concerned both professions, and I suggested that that was the appropriate body to take up these points.

Mr. L. SYLVESTER SULLIVAN [*F.*], Hon. Treasurer and Chairman of the Finance and House Committee : I should like to thank Mr. Jenkins for his encomiums. The Finance Committee has come through a trying time and is doing its best to get the finances of the Institute on to a sound basis. Perhaps the meeting would like to know the result of the appeal up to date. We have received in actual donations since 16 December, when the appeal went out, £3,592 10s. 10d., and we have had promised donations of 18 guineas. The increased subscriptions received amount to £799 17s. 4d. and the promises over a number of years come to a further £1,760 17s. 2d., a total up to date which we may expect of £6,172. The actual money received to date, apart from promises, amounts to £4,392 8s. 2d. We should like to thank all those who have responded to the appeal with such generosity.

There are one or two things which perhaps I might say, although it is difficult to say them without being invidious. I have been struck with the amount of response which we have received from the Dominions and the Colonies, and have been particularly struck with the amount of support from the Students. (Applause.) The Students were added to the appeal at the last moment on the suggestion of a member of the Executive Committee, who thought they might feel hurt if they were left out, and we have been gratified at their generosity. We are grateful to all who have responded.

Mr. A. W. KENYON [*F.*], Chairman of the Exhibition Sub-Committee : I should like to thank Mr. Jenkins for giving us his criticism on the Small House Exhibition, not only to-night but by sending us a letter regarding this Exhibition which was very well thought out. I should like to say how very much we shall appreciate such contributions from any other members of the Institute, because they will be extremely helpful in regard to any other exhibitions which we have to do.

On the question of the diorama, we were called in by the Ministry of Health to help them in making three large scale models of an English town, the first showing a mediæval town, the second the industrial period, and the third the same town as it would be to-day. Many members of the Institute worked on these, and the President kindly came to see it and gave us his criticism. I think that Mr. Jenkins can be quite sure that we have not attempted in the last diorama to portray anything of the town of the future, but merely the town as it is at present. It has had an extraordinarily good press, and it has been said that it is one of the bext exhibits in the New York Fair.

Mr. WALTER H. GODFREY [*F.*], Chairman of the Library Committee : Mr. Jenkins congratulated the Institute and incidentally the Library Committee on a wonderful accession during this year, and also on a wonderful task completed. The accession of the Cotman drawings is an event in the art wold. Cotman occupies a supreme position in the world of water colour, which is, after all, one of our great English contributions to Art. He was also a marvellous architectural draughtsman, so that it is very fitting that those beautiful drawings should be in the custody of the Institute.

Mr. Jenkins's other reference was to the catalogue which has now been completed. I understand—I am not an adept in these things—that it is an event in the history of bibliography, and I think that when we have been hearing of so many records made by the Institute, it is interesting to know that we have made another record in the production of this catalogue.

The PRESIDENT : I will now put to the vote the resolution : "That the Report of the Council and Committees for the official year 1938-1939 be approved and adopted."

The motion was carried unanimously.

Mr. DANIEL ROTH [*A.*] : Is this an appropriate moment to raise further criticism, or is it too late ?

The PRESIDENT : I am afraid that you are too late. The motion has been carried.

Mr. ROTH : May I raise my criticism as a matter of discussion ?

The PRESIDENT : It is too late for discussion ; it is a matter for a further occasion. I think that you will have to raise it at the next general meeting.

I have to announce that a list of attendances at meetings of the Council has been laid on the table and will be printed in the next issue of the JOURNAL and also sent out to members with the voting papers.

I should like to express our gratitude to all those who have taken part in the discussion, and especially to Mr. Jenkins for the great trouble he took in getting together all his points.

I beg now to move that a hearty vote of thanks be accorded to Mr. Robert W. Pite [*F.*] and Mr. J. Maclaren Ross [*A.*] for their services as Hon. Auditors during the past year, and I have to announce that Mr. J. Maclaren Ross [*A.*] and Mr. J. D. Hossack [*F.*] are both eligible and willing to be nominated as Hon. Auditors for the current year, and if it is your pleasure I beg to move that they be so nominated.

The motion was carried unanimously, and the proceedings then terminated.

Typical detached house at Llanfair-Discoed, Monmouth, with new glasshouses beyond

LAND SETTLEMENT SCHEMES IN WALES

Architect: T. ALWYN LLOYD [F.]

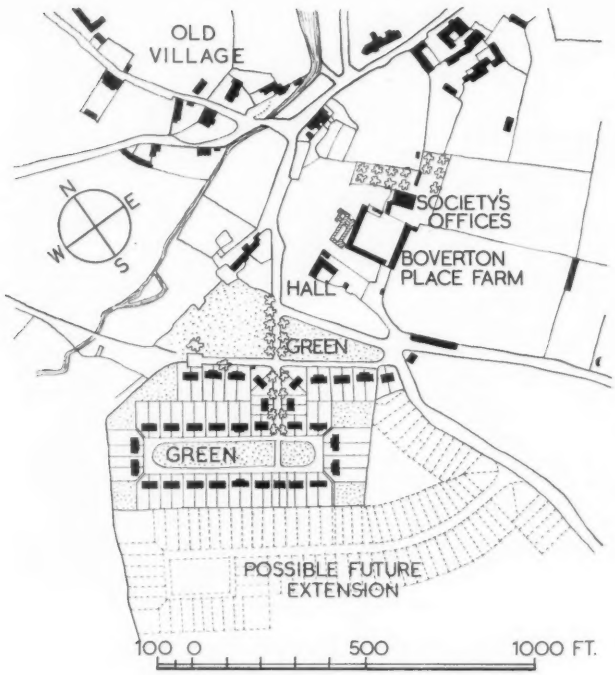
A description appeared in a previous number of the JOURNAL* of the housing work of the Land Settlement Association, formed in 1934 by the Government "to carry out an experimental scheme for the provision of smallholdings for unemployed persons, with the financial assistance of the Government." The Welsh Land Settlement Society, Ltd., was formed later, in 1936, under the auspices of the Commissioner for the Special Areas, with a provisional programme for settling on the land 500 families of unemployed men in the South Wales mining valleys. The District Commissioner, Capt. Geoffrey Crawshay, is chairman of the Society, and the Council of Management includes the Right Hon. D. Lloyd George, two other Members of Parliament, and several others well known in the public life of Wales. Mr. T. Alwyn Lloyd [*F.*], of Cardiff, was appointed architect to the Society.

The Society has broken new ground in its general policy, and instead of instituting smallholdings, as has been the invariable practice elsewhere, most of the estates acquired are being run as co-operative farms. Under this method the settlers all work the farm as one community, and do not have the responsibility of individual holdings. Market gardening on a large scale is the method of production, and there are also glasshouses for tomatoes, etc., and mushroom growing as subsidiaries.

After a preliminary period for training and breaking up the ground, allowing for the erection of the new dwellings, a co-operative society is formed for each settlement, and, under expert management and marketing, the future of the undertaking is in the hands of an elected committee on which the settlers themselves are represented. The settlers receive a weekly wage, as settled by the Agricultural Wages Committee, as well as a share in the profits of the year's working.

Such a system is clearly an advance on the individual smallholdings arrangement, both from a personal and a productive point of view. "Three acres and a cow" are not necessarily as idyllic as is often imagined; family—father, mother and children—having to put in on the land an amount of work out of all proportion

* R.I.B.A. JOURNAL 1937. 22 November. P. 76.



Layout plan of the settlement at Boverton, Glamorgan

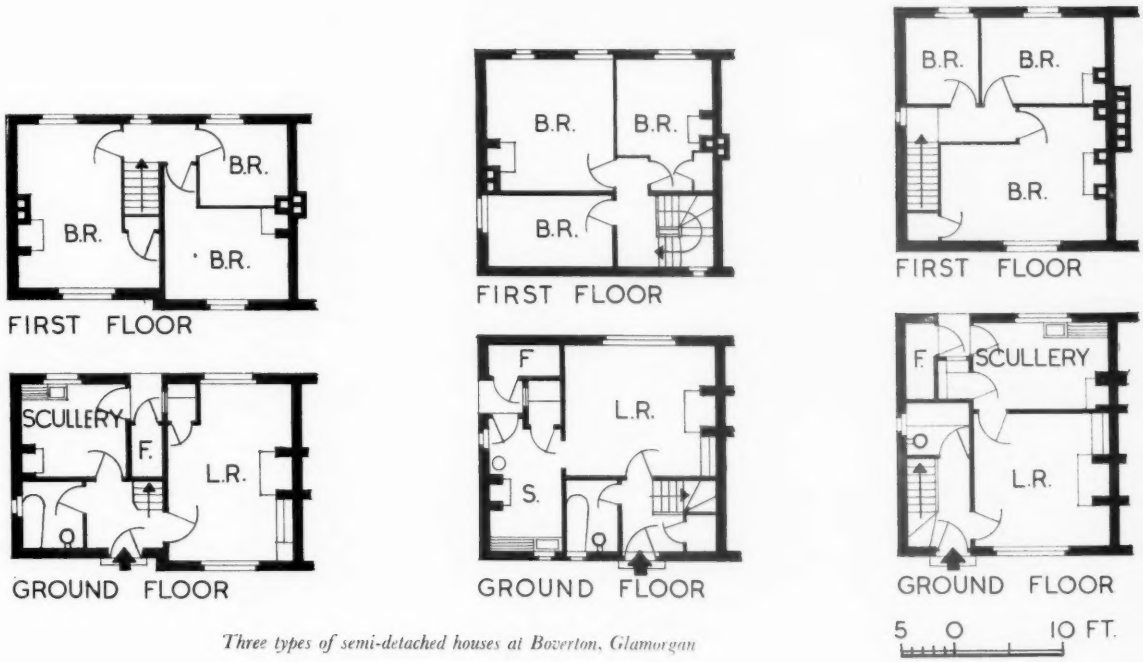
to the yield (when the yield is considered in terms of the possibilities of organised collective farming). And the type of settlement necessarily involved under a smallholding system, a number of individual homesteads on individual farms, spread over a large area, cannot so easily have the social coherence and sense of community that is possible under a co-operative system. This sense of community would seem particularly desirable for families who are moved from the Special Areas, and who, whatever the squalor amongst which they have been living, have obtained by the very fact of living close together, gossiping from door to door, a definite sense of group existence. Further, though they may have been unemployed for many years, their attitude towards working is not the attitude of the individual farmer or craftsman, but essentially of the industrial worker, used to working in large aggregations, and to organising as a working class to improve or maintain its wages, hours of labour and working conditions.

The co-operative nature of these schemes in Wales has resulted in new villages being erected in compact groupings, usually around open greens, instead of the houses being on scattered sites as has to be done when farms are divided into smallholdings. On each settlement the old farmhouse, with its outbuildings, has been altered and reconditioned for use as headquarters, office, stock and packing sheds, large barns or other suitable buildings being converted into recreation halls for communal use. New glasshouses also form a distinctive feature on the farms.

In two instances, for special reasons, the settlements have been laid out as smallholdings of from 6 to 10 acres each, with piggeries and poultry houses, and there is a central farm under a warden, who arranges all buying and marketing on a co-operative basis.

The following is a list of the Welsh Settlements which are already in operation :—

Name	*County*	*Acreage*	*Families Housed*
CO-OPERATIVE FARM SCHEMES			
Boverton	Glamorgan	700	70
Sealand Manor	Flint	851	80
Llanfair-Discoed	Monmouth	282	31
Fferm-Goch	Glamorgan	260	24
			—205
SMALLHOLDING SCHEMES			
Rosemarket	Pembroke	378	34
Leechpool	Monmouth	329	40
			— 74
			279



Three types of semi-detached houses at Boverton, Glamorgan

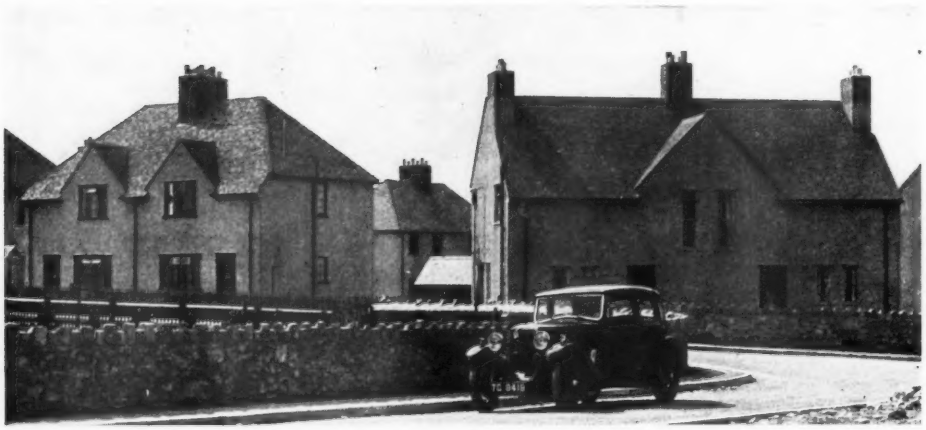
THE SETTLEMENTS

Boverton.—This was the first co-operative farm in Britain to be acquired with the aid of Government funds, and its first two years' working have proved eminently successful. Including overtime and piecework, each settler has received on an average £2 a week wages and a bonus amounting to over 7s. weekly. In addition, each receives a free allowance of vegetables of an estimated value of 2s. 9d. weekly, and the families all earn money as casual workers in the picking season.

The houses, which are of the non-parlour three-bedroom type, are fitted with modern sanitation, separate bathroom, wood block and tile floors, electric light, and hot water from the living-room range. There is also a small stove in the scullery for drying and boiling. These houses are let at the very low inclusive rent of 4s. weekly.

The new village, called by the Welsh form of Boverton, "Tre Beferad," has been placed on an elevated site near the old farm buildings and convenient to the existing picturesque village school and shops, etc. The houses face large greens, and are finished in colour-washed cement of various shades following the traditions of the Vale of Glamorgan. The roofs are covered with sandfaced stone-coloured concrete tiles and the windows are local-made steel casements in wood frames. There

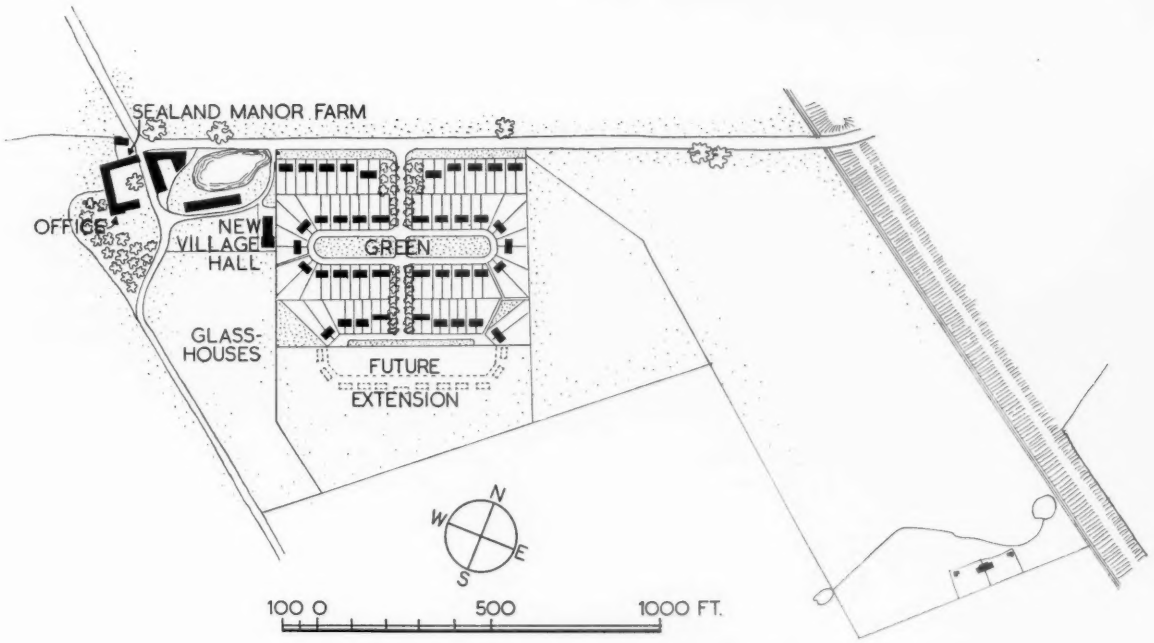
Semi-detached houses at Boverton, Glamorgan



Houses at the entrance to the village at Boverton, Glamorgan, showing the stone boundary walls

Houses facing the green at Sealand Manor, Flint

Houses on the new concrete road at Sealand Manor, Flint



Layout plan of the settlement at Sealand Manor, Flint

is a wooden shed in each garden, covered with cedar shingles. Sewers, water and electric mains were available when the estate was purchased.

An old stone barn at Boverton Place Farm, with a grant of £150 from the Society for materials, has been converted by voluntary labour of the settlers into an excellent recreation hall and social centre.

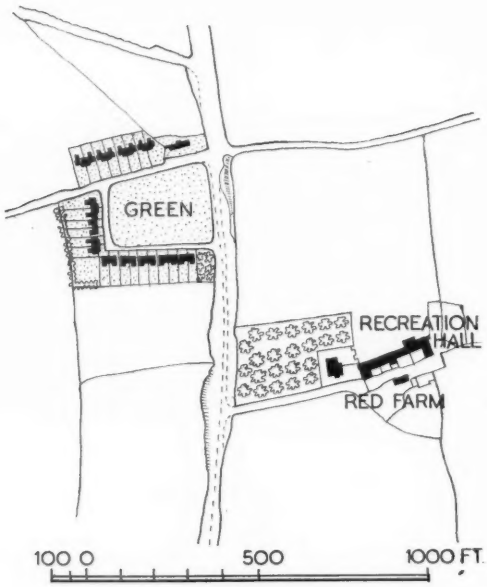
The 60 houses built in 1936 cost £344 each (equivalent to 8d. a cubic foot), and the roads and sewers averaged £45 a house. Four more houses are just being finished.

Sealand Manor.—This settlement, near Queensferry, a few miles from Chester, comprises four farms on entirely flat land with sandy subsoil that was reclaimed from the old estuary of the River Dee about 100 years ago. It is particularly suitable for growing vegetables and root crops. The settlement has 80 new houses grouped round large greens near Sealand Manor Farm, the latter having been converted into headquarters, office and stores. A village hall is to be built for the settlers with the aid of grants from the National Fitness Council and other sources. In keeping with prevailing traditions, the houses are built with sandfaced bricks of purple-brown colour, the roofs, of one-third pitch, being covered with Welsh blue slates. The windows are double-hung sashes with horizontal panes. There was a strong preference for semi-detached houses here, as in the other new villages, although blocks of four or more would give better opportunities for architectural design. The new roads are of concrete construction throughout, as these are easy to maintain and can stand heavy traffic on the farm.

Sewage disposal works and plant had to be constructed to take the drainage from the new village; the mains of the Chester Waterworks Company and the Hawarden U.D.C. Electricity Department have been extended to serve the houses. These all consist of living room, scullery, bathroom and w.c. on the ground floor, with three bedrooms upstairs. The costs in 1937 were £352 a house, the equivalent of 8½d. a cubic ft.

Llanfair-Discoed.—This settlement is beautifully situated under the Wentwood on the main Newport-Chepstow road near Caerwent. It was originally laid out for smallholdings, but after the first batch of houses had been built on scattered sites it was decided to convert it to a co-operative farm, and the remaining 20 houses were grouped together at "Tre-wen" on the new concrete road, with a tree-lined approach from the main road.

The houses are of roughcast finish, colour-washed in various tints, with Welsh slate roofs; windows are double-hung sashes. There is a small brick-built



Above : Pair of houses at Llanfair-Discoed, Monmouth

Right : Layout plan of the settlement at Fferm Goch, Glamorgan

" barn " attached to each house, the drainage being to cesspools. Water and electric light are from local companies' mains.

Four houses have four bedrooms and the others are non-parlour, three-bedroom type, some of these being detached.

The old Court House Farm, a very interesting seventeenth-century structure with its dovecote and extensive outbuildings, is used as manager's residence and office. A large room at the rear of Court House has been converted into a folk hall for the settlers, and there is a modern school, inn and other facilities in the adjoining village of Llanfair.

Building costs in 1937 averaged £403 per house, or 8½d. a cubic foot, the floor areas being rather larger than those at Boverton and Sealand.

Rosemarket.—This settlement for smallholdings has an open upland situation near Neyland in Pembrokeshire. Jordanston Farm, a large Georgian house, with the central farm retained round it, has been reconditioned as warden's residence and office, and 34 houses have been built for the settlers and their families, who are drawn from the mining areas of South Wales and from Pembroke Dock. New concrete roads have been laid for easy access to holdings away from main roads. The houses are finished in roughcast, coloured pink, buff and other shades in the Pembrokeshire tradition. The roofing is sandfaced concrete tiles of stone colour, and the windows are steel casements in wood frames. Each house has a small " barn " of brick attached to it.

The costs in 1937 were £418 per house, or 10d. a cubic foot. Water and electricity are supplied from local companies' mains.

Fferm Goch.—This farm at Penllyn, near Cowbridge, was only recently acquired for a co-operative settlement. The site of the new village of 24 houses is at the junction of the main road with the one leading to Llangan. The layout includes a village green large enough to be used for football, around which the houses are grouped. They will be faced with colour-washed roughcast, with Welsh slate roofs and wood " stormproof " casement windows. The drainage is to cesspools, water and electricity being obtained from companies' mains.

The farm buildings, which are in very good condition, are to be altered for headquarters use, and one portion of them converted to a recreation hall.

REVIEW OF CONSTRUCTION AND MATERIALS

This series is compiled from all sources contributing technical information of use to architects. These sources are principally the many research bodies, both official and industrial, individual experts and the R.I.B.A. Science and A.R.P. Committees. Every effort is made to ensure that the information given shall be as accurate and authoritative as possible. Questions are invited from readers on matters covered by this section; they should be addressed to the Technical Editor. The following are addresses and telephone numbers which are likely to be of use to those members seeking technical information. There are many other bodies dealing with specialised branches of research whose addresses can be obtained from the Technical Editor. We would remind readers that these bodies exist for the service of Architects and the Building Industry and are always pleased to answer enquiries.

The Director, The Building Research Station, Garston, Nr. Watford, Herts. Telegrams: "Research Phone Watford." Office hours: 9.30 to 5.30. Saturdays 9 to 12.30.

The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks. Telephone: Princes Risborough 101. Telegrams: "Timberlab Princes Risborough." Office hours, 9.15 to 5.30. Saturdays 9.15 to 12.

The Director, The British Standards Institution, 28 Victoria Street, London, S.W.1. Telephone: Victoria 3127 and 3128. Telegrams: "Standards Sowest London." Office hours, 9.30 to 5. Saturdays 9.30 to 12.30.

The Technical Manager, The Building Centre, Ltd., 158 New Bond Street, London, W.1. Telephone: Regent 2701, 2705. Office hours, 10 to 6. Saturdays 10 to 1.

The Chief Technical Officer, The Building Centre (Scotland) Ltd., 425-7 Sauchiehall Street, Glasgow, C.2. Telephone: Douglas 0372-0373. Office hours, 9.30 to 6. Saturdays 9.30 to 1.

A NEW PRINCIPLE IN BRICKWORK

We have become so accustomed to associating the word *brick* with the standard rectangles piled in liberal profusion one upon another throughout the world and down the centuries, that any suggestion that advantages might be gained by radically altering its shape may at first be met with some scepticism. Accustomed habits of thought die hard, particularly in this case. In a world of rapid technical invention and marketing, when new methods and materials and gadgets appear almost week by week in such quantities that it seems impossible to keep pace with them, or to sort the sheep from the goats, the dear old brick has remained as stable as an historical fact—something that at least we can be sure of.

For this reason the immediate reaction of many architects to the Rhom brick (pronounced to rhyme with "bomb" and not with "bum," as one facetious reviewer suggested) may be that it is a quaint decorative variant of the standard brick, on a par perhaps with the bull-nose or other specials, and that it is worth remembering when serrated walls, decorative cornices and hexagonal piers are needed. But this is to misunderstand it completely; it differs from the standard brick scientifically rather than æsthetically, and the advantages claimed for it, and claimed with some reason, are structural and economic. Its decorative possibilities should be regarded as something thrown in as a sort of largesse.

The fundamental principle underlying the size of the rectangular brick is that the stretcher is equal to two headers plus the joint thickness between them. Two rectangular bricks put side by side thus form a perfect square. The Rhom brick, evolved by Mr. W. S. Grice [*F.*], applies the same principle to bricks in which the parallel sides are inclined at an angle, with the result that two Rhom bricks placed side by side, with the joint thickness between them, form a perfect rhombus. The standard Rhom brick, known as the "Mark III," is based on a 60 deg. angle (see Fig. 1), but since the internal obtuse angle on one wall face must come directly opposite the adjoining brick's internal acute angle on the other wall face, and an allowance has to be made for the thickness of the mortar joint between the two bricks, the angle of 60 deg. is reduced to 58 deg. 48 min. This angle is based on a joint thickness of $\frac{3}{8}$ inch. The brick measures 5 in. by $10\frac{3}{8}$ in. along faces, and each pair of adjacent bricks thus forms a perfect rhombus with a side of $10\frac{1}{4}$ in., making a wall 9 in. thick.

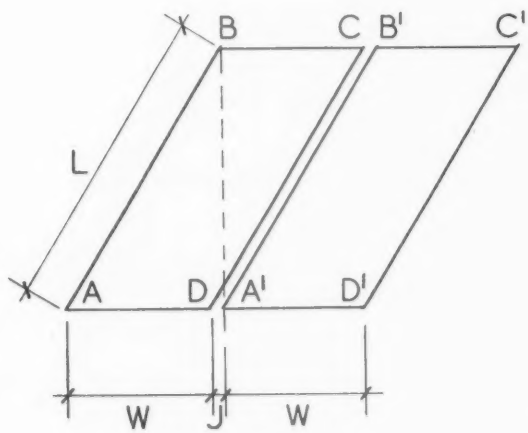


Fig. 1

Expressed trigonometrically:

When L = length of stretcher
W = length of header
J = thickness of joint
and L = 2 W + J
and B. A[1] is at right angles to A. D.[1]

Then $\text{Cos A.} = \frac{W + J}{L}$

With this formula the angle can be got for any size of brick and for any major variation in the size of joint, and the precise angle ensures the proper working of the system and makes it easy to design a corner brick which by the simple process of reversing fits exactly into position and keeps a constant relationship of the perpendicular joints.

The standard Rhom brick is designed to form walls of the normal thickness, viz., 4½ in., 9 in., 13½ in., 18 in., etc. Figs. 2 and 3 show how the brick is used in a 9-in. and a 13½-in. wall, and also for a simple hexagonal pier. It can be seen how in the 9-in. wall bonding is completely automatic.

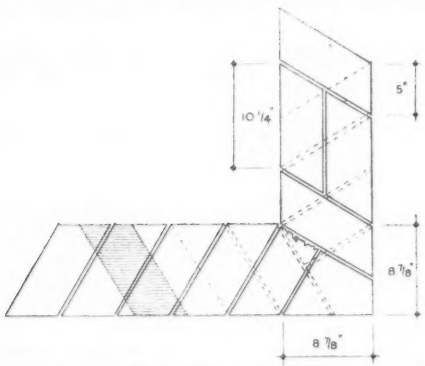


Fig. 2. *The "Mark III" brick used in a 9" wall. The brick shown hatched demonstrates the way in which bonding is not dependent upon any particular relationship between successive courses*

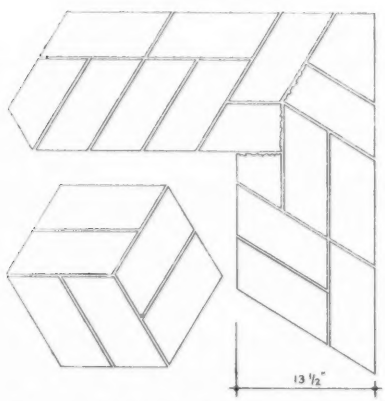


Fig. 3. *The "Mark III" brick used in a 13½" wall and a simple hexagonal pier*

Unless any particular pattern is required on elevation the bricklayer does not have to worry about getting the right bond. Whereas with the normal rectangular brick successive courses must break joint, with the Rhom brick the vertical relationship of joints in successive courses simply does not matter as far as the strength and homogeneity of the wall is concerned. The bricks in successive courses are inclined in alternate directions, and whatever the position of a brick it has a minimum bond on three others, and a possible bond on four. Thus if no systematic bonding pattern is required, as in walls that are to take a rendering, or in foundation work, party walls, retaining walls, etc., the brick gives the possibility of an "haphazard bond" that can be laid without loss of strength as rapidly as is mechanically possible. At the same time it should be remembered that the brick provides many new elevational patterns, in addition to the traditional English and Flemish types. Some examples of these, for various wall thicknesses, are shown in Fig. 4. Obviously the rhomboid shape also provides considerable scope for new plan shapes,

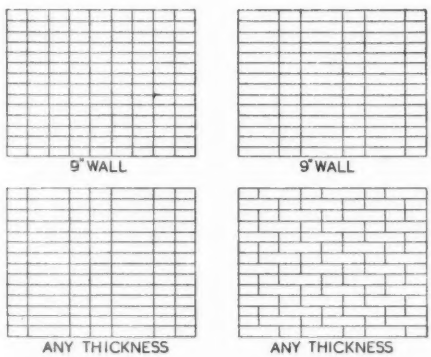


Fig. 4. *Elevational patterns with the "Mark III" brick. The long proportion of the brick will be noticed*

piers, splayed reveals, serrated walls and decorative elements, without cutting or waste or the use of specials. On a small job, for instance, such as the *Silexine* factory at Shepherd's Bush, designed by Mr. Grice, when the ordering of expensive specials is out of the question, the Rhom brick can display a remarkable versatility. As much, if not more, can be done with it as with almost any number of special shapes based on the rectangular brick. One special is necessary for getting round corners, and this is reversible in successive courses. The use of closers is eliminated.

It seems natural that the actual cost per thousand should be higher than for ordinary bricks, but 850 Rhom bricks are the equivalent in bulk of 1,000 ordinary ones, and although no precise figures are available it is estimated that the saving in mortar and cutting, and the increased speed of laying, should result in a saving of something between £3 and £5 per rod under normal conditions, assuming conditions to be otherwise equal. On the æsthetic side, architects who like a brick longer in proportion than the ordinary rectangular one should note that the standard Rhom brick, by what Mr. Grice

calls "a mathematical cheat," gives a longer stretcher and header while maintaining the ordinary wall thickness and without extra cost.

There is also a "Junior" Rhom brick, in which the stretcher and header are $8\frac{7}{8}$ in. and $4\frac{1}{8}$ in. respectively. This type gives the standard size on elevation, but reduces the wall thickness to $7\frac{1}{2}$ in. While the proportion and external appearance remain the same as for rectangular brick, there is a saving in weight, space, material and mortar amounting to about 16 per cent. compared with a similar length of walling of standard rectangular bricks. An obvious use for this "Junior" brick is the $13\frac{1}{2}$ in. hollow wall shown in Fig. 5, which gives a $7\frac{1}{2}$-in. inside wall for weight carrying and a $3\frac{5}{8}$-in. outside skin for facing work—a method which would seem to have considerable advantages over the usual 11-in. hollow wall in which most of the weight is carried on the inner $4\frac{1}{2}$-in. skin.

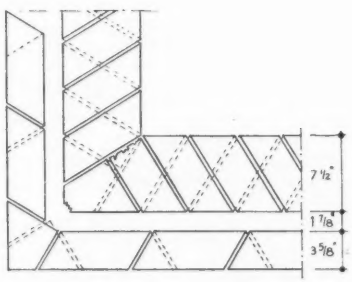


Fig. 5. *A $13\frac{1}{2}$" hollow wall built with the "Mark III" "Junior" brick*

The bricklayers appear to have taken to the brick kindly, in spite of its unusual shape. (And even to have been sufficiently intrigued with it to have played with its possibilities over the week-ends.) The shape of the brick does not demand of the bricklayer a new method of handling, for the hand span is no more than the rectangular brick. It is true that the brick is a little heavier—seven Rhom bricks to eight ordinary ones—but in practice this has been found to be no disadvantage, since the bricklayers are accustomed to working with blue bricks and other heavy weight engineering bricks. Further, the brick does not suffer from the handicap that has been encountered in the use of some of the recent types of building block, which in an attempt to use a larger unit have demanded a new technique of laying. The Rhom brick does not need two hands to pick it up, and does not lead to disputes on the grounds that it is so simple to lay that it is a labourer's rather than a bricklayer's job. But it is claimed that apprentice bricklayers can be taught to lay bulk Rhom bricks very much more quickly than they can ordinary bricks.

The brick has been criticised on the grounds that its acute angle makes breakages more likely, but, on the other hand, both acute angles have to be broken before the brick is useless, and a broken angle on the internal face is no disadvantage, since it provides a good key for plasterwork. Also, the obtuse angles are extremely unlikely to be broken—less likely than the right angles of the ordinary brick. But a tendency towards breakage is an important factor, particularly from the manufacturer's point of view, and it would appear that quite apart from the risk of the acute angle snapping off owing to its shape, breakage risks may be increased because the shape of the brick must make quantity handling and stacking rather more difficult. This applies particularly to the initial stages of its use, when the men are not accustomed to it; sharp rhomboids cannot be thrown about with quite the nonchalant ease that is possible with rectangles. But whether this is a real disadvantage only time can prove; it seems reasonable to suppose that with experience and familiarity such objections will be overcome. Meanwhile, breakage risks and unfamiliarity have to be allowed for by the manufacturer in the price of the delivered article.

* * *

The problem of reinforced brickwork has led Mr. Grice to evolve a third type of Rhom brick which should arouse considerable interest. With the standard "Mark III" type it is possible to build a $13\frac{1}{2}$-in. wall (or an $11\frac{1}{2}$-in. wall with the "Junior" size) which leaves triangular cavities in which reinforcement can be arranged. Whilst this is of some value, the reinforcement can only come roughly in the centre of the wall. The "Mark II" brick shown in Fig. 6 has been designed specially for reinforcement, and allows for flexibility in its placing. It makes the same thickness wall as the standard "Mark III," but is based on a less acute angle, having a minimum bond on two bricks rather than three, and having sides of $4\frac{3}{8}$ in. and $9\frac{1}{8}$ in., and a recess on one of the stretcher sides. (Since the recess is on one side only it is possible to use the brick in the normal manner without reinforcement.). The automatic bond of the Rhom shape makes it possible to place the reinforcement wherever it is wanted, in the centre or near either of the wall surfaces. This brick is intended primarily as an engineer's brick, for sea walls, railway embankments, tanking, etc., and it will be noticed that, except when the reinforcement is placed centrally, the elevational appearance would be rather curious. But it is certainly a brick which lends itself very simply and flexibly to reinforcement, is easy to make and easy to lay, not difficult to handle and not readily broken. And presumably it should not be expensive.

* * *

No one manufacturer has a monopoly on the Rhom brick. The design is being patented, and *Rhombrix, Ltd.*, grant manufacturing licences to any brickmaker on a royalty basis. Whether the brick becomes a recognised and familiar method of building depends entirely upon the demand that is expressed for it.

Fig. 6. *The "Mark II" brick, for reinforcement. It will be seen how by altering the horizontal relationship of the courses the space for reinforcement, shown central on the diagram, can be obtained near either of the wall faces*

1939 COUNCIL ELECTION

NEW NOMINATIONS

The following nominations have been made by members in accordance with Byelaw 35 :—

As Members of Council

ASLIN, Charles Herbert (Derby) (Official Architect) : Nominated by M. H. Brook, Robert F. Fairhurst, G. Hopkinson, F. Marston, T. Noel Mitchell, C. E. Stafford, A. G. Walker, *Associates*.

BAIN, Victor (Leeds) (Private practice) : Nominated by A. Burnett Brown, J. Ernest Franck, J. D. Hossack, C. J. Fawcett Martindale, J. B. Surman, John Swarbrick, *Fellows ;* R. P. Sharman, G. G. Winbourne, *Associates*.

BARTLETT, Percy James (Nottingham) (Staff Architect) : Nominated by H. Bryant Newbold, C. G. Stillman, E. A. Verger, *Fellows ;* R. W. Beard, H. M. Jeffreys, Joseph Lynch, A. J. R. Marshall, *Associates*.

BENNETT, John (Exeter) (Official Architect) : Nominated by H. Bryant Newbold, C. G. Stillman, E. A. Verger, *Fellows ;* R. W. Beard, H. M. Jeffreys, H. E. Nicholls, *Associates ;* A. Cunes, O. Parker, John Pickering, *Licentiates*.

COLLINS, Henry Richard (Bournemouth) (Private practice) : Nominated by Philip Hardy, *Fellow ;* A. E. Geens, C. B. K. Milnes, Ronald A. Phillips, W. G. Seaton, K. J. Smith, Gordon Sutcliffe, *Associates*.

FORSHAW, John Henry, M.C., M.A., B.Arch.Liverpool (Official Architect) : Nominated by John A. Dempster, W. M. Traylor, W. A. Woodland, *Fellows ;* J. H. Bourne, H. A. Bowen, A. C. S. Auld, Cecil G. Kemp, A. J. Saise, H. G. Speakman, Miss Marjorie Tall, *Associates ;* F. T. Bettington, John W. M. Dudding, *Licentiates*.

HORTH, Frederick John (Hull) (Private practice) : Nominated by James R. Adamson, Victor Bain, J. D. Hossack, C. J. Fawcett Martindale, J. B. Surman, John Swarbrick, *Fellows ;* Norval R. Paxton, *Associate*.

HOSSACK, James Davidson, O.B.E. (Private practice) : Nominated by A. Burnett Brown, H. Colbeck, Charles H. Gage, John Swarbrick, *Fellows ;* H. W. Humphrey, R. P. Sharman, G. G. Winbourne, *Associates ;* W. Hansell Hayward, *Licentiate*.

JENKINS, Gilbert Henry (Private practice) : Nominated by Professor Patrick Abercrombie, Professor S. D. Adshead, Charles Holden, Lt.-Col. P. A. Hopkins, A. B. Knapp-Fisher, H. Lidbetter, A. L. Roberts, L. Sylvester Sullivan, *Fellows ;* S. Lunn Whitehouse, *Licentiate*.

MEADOWS, Samuel Douglas (Official Architect) : Nominated by Percy Bartlett, A. Rowland Conder, H. Bryant Newbold, C. G. Stillman, E. A. Verger, *Fellows ;* R. W. Beard, H. M. Jeffreys, *Associates*.

MEREDITH, John Nelson (Bristol) (Official Architect) : Nominated by Percy Bartlett, H. Bryant Newbold, C. G. Stillman, E. A. Verger, *Fellows ;* R. W. Beard, H. M. Jeffreys, F. Reginald Steele, *Associates*.

ROBERTS, Robert George (Newcastle-upon-Tyne) (Official Architect) : Nominated by Percy Bartlett, H. Bryant Newbold, C. G. Stillman, E. A. Verger, *Fellows ;* R. W. Beard, H. M. Jeffreys, S. M. Richmond, *Associates*.

STILLMAN, Cecil George (Chichester) (Official Architect) : Nominated by Percy Bartlett, H. Bryant Newbold, E. A. Verger, *Fellows ;* A. G. Barber, R. W. Beard, J. Catchpole, H. M. Jeffreys, H. Mackley, Howard W. M. Sage, *Associates*.

SURMAN, John Burgess (Birmingham) : (Private practice) : Nominated by Victor Bain, A. Burnett Brown, H. Colbeck, J. Ernest Franck, J. D. Hossack, C. J. Fawcett Martindale, John Swarbrick, *Fellows ;* H. W. Humphrey, R. P. Sharman, G. G. Winbourne, *Associates*.

SWARBRICK, John (Manchester and London) (Private practice) : Nominated by Victor Bain, A. Burnett Brown, T. P. Bennett, H. Colbeck, J. Ernest Franck, J. D. Hossack, A. S. R. Ley, C. J. Fawcett Martindale, C. Wontner Smith, Digby L. Solomon, J. B. Surman, *Fellows ;* H. W. Humphrey, R. P. Sharman, G. G. Winbourne, *Associates ;* Eric Hayman, W. Hansell Hayward, *Licentiates*.

VERGER, Edward Arthur (Lewes) (Official Architect) : Nominated by Percy Bartlett, H. Bryant Newbold, C. G. Stillman, Chas. H. Wallis, *Fellows ;* R. W. Beard, H. M. Jeffreys, Fredk. Musto, *Associates*.

As Associate Members of Council

CASTLE, James Thomas (Official Architect) : Nominated by Percy Bartlett, H. W. Burchett, H. Bryant Newbold, C. G. Stillman, E. A. Verger, *Fellows ;* R. W. Beard, H. M. Jeffreys, *Associates*.

CULPIN, Clifford Ewart (Private practice) : Nominated by E. E. Freeborn, H. Desmond Hall, E. W. Harkness, Hubert L. Meed, W. Cecil Rule, Thomas Stott, Douglas A. S. Webster, *Associates*.

GIBSON, Donald Evelyn Edward, M.A., B.A.Hons.(Arch.) Mancr. (Coventry) (Official Architect) : Nominated by Professor Patrick Abercrombie, Professor Lionel B. Budden, Professor R. A. Cordingley, J. H. Forshaw, *Fellows ;* Wesley Dougill, P. J. Marshall, Geoffrey F. Ransom, *Associates*.

HARRIS, Robert Oliver (Taunton) (Official Architect) : Nominated by A. J. Toomer, *Fellow ;* R. H. Clay, W. J. H. Dungey, J. G. Hinton, Frederick U. Jenkins, D. J. Simpson, Rowland V. Taylor, Guy Ward, Wilfrid H. Wingate, *Associates ;* Percival C. Teague, *Licentiate*.

LIVETT, Richard Alfred Hardwick (Leeds) (Official Architect) : Nominated by William Broadbent, F. L. Charlton, G. H. Foggitt, *Fellows ;* J. S. Allen, H. J. Brown, H. Conolly, W. H. King, Norval R. Paxton, J. R. Tolson, *Associates*.

MANNING, Roger Davys (Welwyn Garden City) (Salaried Architect) : Nominated by Charles Bornat, J. Cunningham, R. C. Fisher, V. Leslie Nash, Colin Penn, David Eyre Percival, Wm. L. Vinycomb, *Associates*.

PINCKHEARD, John Albert (Salaried Architect) : Nominated by Charles Bornat J. Cunningham, R. C. Fisher, V. Leslie Nash, Colin Penn, David Eyre Percival, Wm. L. Vinycomb, *Associates*.

WALKER, Winston (Official Architect): Nominated by W. G. C. Bell, Lifford Claydon, Raymond Eve, N. Seton Morris, J. S. Neish, Alwyne Tutton, the Hon. R. de Yarburgh-Bateson, *Associates*.

WINGATE, Wilfrid Hurford (Cambridge) (Official Architect): Nominated by A. J. Toomer, *Fellow*; R. H. Clay, W. J. H. Dungey, R. O. Harris, J. G. Hinton, Frederick U. Jenkins, D. J. Simpson, Guy Ward, *Associates*; Percival C. Teague, *Licentiate*.

AS LICENTIATE MEMBER OF COUNCIL

MACTAGGART, Malcolm (Welwyn Garden City) (Official Architect): Nominated by A. P. Ciregna, J. F. Cooper, R. Jackson, Roy Pitchford, C. E. Plews, Harold Wyatt, *Associates*; Stanley Honour, *Licentiate*.

ATTENDANCES AT COUNCIL MEETINGS

[SESSION 1938-1939]

(UNLESS OTHERWISE STATED THE MEMBERS' ADDRESSES ARE IN LONDON)

(10 Meetings)

President: H. S. Goodhart-Rendel, 9.

Vice-Presidents: Professor Patrick Abercrombie, 8; James R. Adamson (Bolton), 7; *A. H. Moberly, 8; Howard M. Robertson, 8.

Honorary Secretary: *W. H. Ansell, 7.

Honorary Treasurer: *L. Sylvester Sullivan, 7.

Members of Council: Professor Patrick Abercrombie, 8; Robert Atkinson, 6; E. C. Bewlay (Birmingham), 9; A. C. Bunch (Warwick), 8; C. Cowles-Voysey, 4; Joseph Emberton, 3; E. Stanley Hall, 10; Stanley Hamp, 8; G. Noel Hill (Manchester), 4; Charles H. Holden, 8; T. Cecil Howitt (Nottingham), 6; Edward Maufe, 6; Professor C. H. Reilly (Brighton), 6; Howard M. Robertson, 8; Sydney Tatchell, 9; Maurice E. Webb, 6; E. P. Wheeler, 7; G. Grey Wornum, 5.

Associate Members of Council: W. Naseby Adams, 8; Percival C. Blow (St. Albans), 2; W. Austin Daft (Oxford), 7; Wesley Dougill (Liverpool), 10; R. A. Duncan, 9; Professor W. G. Holford (Liverpool), 7; C. Anthony Minoprio, 9; Norval R. Paxton (Leeds), 8; E. Berry Webber, 7.

Licentiate Members of Council: Stanley A. Heaps, 7; Sir William F. V. M. Milner (Skipton, Yorks and London), 10; S. Lunn Whitehouse (Birmingham), 9.

Past Presidents: Percy E. Thomas (Cardiff), 0; Sir Raymond Unwin, 2.

Representatives of Allied Societies in the United Kingdom or the Irish Free State:—Northern Province of England: George H. Gray (Northern Architectural Association), 4; W. A. Johnson (Manchester Society of Architects), 3; Harold A. Dod (Liverpool Architectural Society), 6; C. W. C. Needham (York and East Yorkshire Architectural Society), 9; F. L. Charlton (West Yorkshire Society of Architects), 9; W. G. Davies (Sheffield, South Yorkshire and District Society of Architects and Surveyors), 6. *Midland Province of England*: S. N. Cooke (Birmingham and Five Counties Architectural Association), 8; E. J. Williams (Leicester and Leicestershire Society of Architects), 10; Major Basil C. Deacon (Northamptonshire, Bedfordshire and Huntingdonshire Associaion of Architects), 9; W. G. Watkins (Nottingham, Derby and Lincoln Architectural Society), 6; Leslie Barefoot (East Anglian Society of Architects), 2. *Southern Province of England*: J. C. C. Bruce (Devon and Cornwall Architectural Society), 8; C. W. Pike (Wessex Society of Architects), 9; G. Hastwell Grayson (Berks, Bucks and Oxon Architectural Association), 7; A. Leonard Roberts (Hampshire and Isle of Wight Architectural Association), 9; H. P. G. Maule (Essex, Cambridge and Hertfordshire Society of Architects), 9; John L. Denman (South-Eastern Society of Architects), 9; *Allied Societies in Scotland*: Norman A. Dick (Glasgow), 0; Colonel G. Gardner McLean (Glasgow), 6; §T. F. Maclennan (Edinburgh), 6; C. G. Soutar (Dundee), 7. *Allied Societies in Wales*: O. S. Portsmouth (South Wales Institute of Architects), 4. *Allied Societies in Ireland*: Harry Allberry (Royal Institute of the Architects of Ireland), 4; T. R. Eagar (Royal Society of Ulster Architects), 0.

Representatives of Allied Societies in the British Dominions Overseas: H. L. Featherstonhaugh (Royal Architectural Institute of Canada), 0; Professor Alfred S. Hook (Royal Australian Institute of Architects), 0; Cecil W. Wood (New Zealand Institute of Architects), 0; E. M. Powers (Institute of South African Architects), 0; P. P. Kapadia (Indian Institute of Architects), 0.

Representative of the Architectural Association (London): Verner O. Rees, 5.

Representative of the Association of Architects, Surveyors and Technical Assistants: R. C. Fisher, 7.

Chairman of the Board of Architectural Education: Hubert Lidbetter, 10.

Chairman of the R.I.B.A. Registration Committee: T. A. Darcy Braddell, 5.

Chairman of the R.I.B.A. Official Architects Committee: †W. T. Curtis, 8.

Representative of the R.I.B.A. Salaried Members Committee: †W. E. Brooks, 7.

---

* Marked thus were appointed at the second Meeting of the Council. Possible attendances, 8.

† Marked thus were appointed after the second Meeting of the Council. Possible attendances, 8.

§ Marked thus was appointed after the first Meeting of the Council. Possible attendances, 9.

STRUCTURAL AIR RAID PRECAUTIONS

Article No. 2—Publications

Recent months have seen the production of a great number of publications on A.R.P. Until about a month ago very little that was of professional use to the architect had been published by the Government, although the profession had long awaited an official pronouncement. The only exception to this was a report of the A.R.P. Conference held last June, entitled "Structural Air Raid Precautions." The Conference was allowed by the A.R.P. Department of the Home Office to make use of certain official documents and for that and other reasons the report of the Conference has proved to be a fairly accurate forecast of the Government policy in respect of factories and commercial buildings.

There are still several important Government publications to come, and it can safely be said that the technique of A.R.P. is still in its infancy. Among these publications is Handbook No. 5 which, it is understood, has undergone several changes since it was first announced. Originally it was intended to cover the subject of structural precautions and shelters in buildings from an architectural point of view. It now appears likely, however, that Handbook No. 5 will be limited to particulars of the performance of bombs and some general principles on structural design. This will be supplemented by further building codes and pamphlets on sections of the subject.

The following notes are intended to be no more than an indication of the contents and general usefulness of the publications described.

OFFICIAL PUBLICATIONS*

1. *Air Raid Shelters for Persons Working in Factories and Commercial Buildings.* Home Office. Price 6d.

This is commonly known as "the Building Code" which is attached to the Civil Defence Bill. It is a most important document for architects engaged on work in factories and commercial buildings under the Civil Defence Bill. It indicates the minimum standard of protection which will be approved for purposes of a Government grant. The first issue is marked "Draft of Provisional Code."

2. *Pamphlet on Shelter from Air Attack.* Home Office. Price 2d.

This is a revision and amplification of a duplicated document which was issued to architects and engineers on demand by the A.R.P. Department of the Home Office from the September crisis until recently. It contains general advice about the provision of shelter from air attack and some useful technical information, and can be regarded as a supplement to the Building Code.

3. *Air Raid Shelters. Report of the Lord Privy Seal's Conference.* Home Office. Price 6d.

Commonly known as the "Hailey Report," this is a general statement on national shelter policy and can be accepted as the basis of arrangements sponsored or enforced by the Government. It discusses the major considerations involved, the various forms of active and passive defence, and types of shelter in general terms.

4. *Air Raid Shelter Policy. Report to the Lord Privy Seal.* Home Office. Price 2d.

A report by three engineers, Dr. David Anderson, Mr. B. L. Hurst and Sir Henry Japp, which accompanied their design of the standard steel shelter. It discusses the protection of residential buildings of all kinds.

5. *Structural and Other Precautions Against Air Raid Risks in Hospitals.* Ministry of Health. Price 3d.

A statement by the Ministry of Health on A.R.P. technical requirements in hospitals.

6. *Police Buildings. Structural Protection Against Air Attack.* Home Office. Price 6d.

This publication is only obtainable by police authorities or by architects working for them.

7. *Air Raid Precautions for Government Contractors.* Admiralty, War Office, Air Ministry. Price 4d.

An outline of A.R.P. measures required of industrial firms working for the Government.

8. *Incendiary Bombs and Fire Precautions. Handbook No. 9.* Home Office. Price 6d.

This handbook should be studied by all architects making arrangements for defence against incendiary bomb attack, although it contains information which is solely of use to fire-fighting services. While it contains certain recommendations which most architects will consider to be incomplete solutions, there is also some useful information on the fire-resisting qualities of different materials and on appliances, fire parties, etc.

9. *Specifications, etc., in regard to Permanent Lining of Trenches.* Home Office. Price 4d.

Architects carrying out trench shelter schemes will find this useful.

10. *Air Raid Precautions Act 1937. First Aid Posts and Points. Circular 1789.* Ministry of Health.

The Ministry of Health's official recommendation on surgical and medical equipment, mobile units and personnel in connection with first-aid posts. It is issued to local authorities.

* Obtainable from H.M. Stationery Office.

11. *Provision of Air Raid Shelters in Basements. A.R.P. Memorandum No. 10, 1st Edition.* Home Office. Price 4d.

This is the most recent Home Office publication on basement shelters and is intended for the guidance of architects, engineers and technical officers of local authorities. The publication is concerned principally with timber and steel strutting of basements, and contains some useful tables of sizes. There are also notes on emergency exits and some typical examples of basement treatment shown in drawings.

12. *Directions for the Erection of Domestic Surface Shelters.* Home Office. Price 2d.

Describes and illustrates small shelters made of brickwork, mass concrete or masonry, having reinforced concrete roofs. They are suitable for erection in gardens of houses.

SEMI-OFFICIAL PUBLICATIONS*

13. *Structural Air Raid Precautions.*
Report of a Conference held at the R.I.B.A. Price 1s.

14. *E.P.A.R. Memorandum No. 1. Blast.* Institution of Civil Engineers. Price 6d.

This is the first publication of the Engineering Precautions (Air Raid) Committee of the Institution of Civil Engineers. It consists of a thorough study of the nature of blast effects of explosions.

15. *E.P.A.R. Memorandum No. 2. Penetration of Bombs.* Institution of Civil Engineers. Price 6d.

The companion publication to the one immediately preceding, and consisting of a study of the ways in which bombs penetrate into various materials.

UNOFFICIAL PUBLICATIONS†

16. *A.R.P. A Report on the Design, Equipment and Cost of Air Raid Shelters.* By the Association of Architects, Surveyors and Technical Assistants. Reprinted from the *Architects' Journal*. Price 1s.

An early survey of the A.R.P. problem and suggested means of providing shelter. Like all precise recommendations up to date, it suffers from unreliable data, particularly in regard to design of shelters to resist a direct hit. In the main its recommendations are sound.

17. *Report on A.R.P.* Institution of Structural Engineers. Price 2s.

Published immediately after the September crisis, this report is a summary of earlier information and some general recommendations. A good deal of the matter in the summary of information was taken verbatim from the report of the Royal Institute of British Architects' Structural A.R.P. Conference, although this publication is marked "Copyright reserved."

18. *Air Raid Structures and A.R.P. in Barcelona To-day.* By Cyril Helsby. Institution of Structural Engineers. Price 2s.

A useful article on the effects, observed by the author, of bombing in Barcelona. He makes clear that generally the effects of bombs were strongly influenced by the very flimsy construction of typical Spanish buildings. The author concludes with a plea for the general adoption of deep shelters, but fails to observe that conditions, both in respect of buildings and people, are not necessarily the same in Spain and Great Britain.

19. *Air Raid Defence. The Shelter Problem.* Publication No. 1 of the Air Raid Defence League. Price 6d.

This is a general survey of the shelter problem, published before the Hailey Report, mentioned above. It is a commendably dispassionate and non-political review of a problem which tends sometimes to be coloured by political bias.

20. *Outline of Civil Defence.* Publication No. 2 of the Air Raid Defence League. Price 6d.

A general survey of the whole problem of Civil Defence, including active defence, types of raiding, evacuation, shelter, industrial organisation, food supplies and research.

21. *Civil Defence.* By C. W. Glover. Chapman & Hall. Price 15s.

This book is intended to be a complete survey of the technique of A.R.P. It is mainly a collection of already published material, very thoroughly and carefully carried out. It suffers, however, from having been a little premature in that it does not contain the official Government recommendations on shelters published recently. On structural aspects it includes (with due acknowledgment) material from the Royal Institute of British Architects' Report.

22. *Planned A.R.P.* By Tecton (Architects). The Architectural Press. Price 5s.

This is a statement of the data and reasoning which underlie the scheme of public shelters designed by the authors for the Borough of Finsbury. It is well argued and excellently illustrated, but some of the arguments are based on assumptions now in process of being replaced by more reliable data from official sources. Since the book is a justification of the particular designs of shelter in the Finsbury scheme, it seeks to prove the disadvantages of other types of shelter.

23. *A.R.P. Report of the Finsbury Borough Council.* By Messrs. Tecton (Architects). R.I.B.A. Reference Library.

The official report accompanying the designs of the shelters presented to the Finsbury Borough Council.

* Published with Home Office assistance.

† Copies of these publications, submitted by the publishers to the R.I.B.A. Library, have been handed to the Secretary of the A.R.P. Committee for reviewing as given below.

24. *Design, Cost, Construction and Relative Safety of Trench, Surface, Bomb-proof and other Shelters.* By Ove N. Arup. Concrete Publications, Ltd.

A discussion of the theory underlying the design of the Finsbury scheme by the structural engineer who collaborated with the architects. This publication should be in part reviewed in the light of information which will be contained in the forthcoming Government publication on structural defence.

25. *Plan for A.R.P.* By Serge Chermayeff. Frederick Muller, Ltd. Price 6d.

An outline of suggested national A.R.P. policy, with recommendations for organisation, research, etc.

26. *A.R.P.* By Professor J. B. S. Haldane. Victor Gollancz. Price 7s. 6d.

First published in September 1938, this is a general survey of air raiding and A.R.P., written for the layman and containing arguments in favour of deep shelters.

27. *A.R.P. A Reply to Professor J. B. S. Haldane, the Royal Institute of British Architects and some others, including the British Government.* By Martian. John Bale, Sons & Curnow, Ltd. Price 1s.

A somewhat rambling series of comments on A.R.P., with the general conclusion that it is all useless but that something should be done. The author displays very little real knowledge of his subject.

28. *On Guard Against Gas.* By H. A. Sisson. Hutchinson & Co. Price 2s.

A thorough and dispassionate study of gas warfare and methods of defence. The author was Deputy Assistant Director of Gas Services during the Great War and he assesses poison gas as one of the secondary, but by no means negligible, methods of attack.

29. *A.R.P. and High Explosive.* By Major H. L. Pritchard. Duckworth. Price 1s.

A discussion on the effects of high-explosive bombs and protection against them, published at a time when the A.R.P. Department of the Home Office were concentrating chiefly on defence against gas.

30. *Structural A.R.P. Bulletin No. AR. 1.* Clay Products Technical Bureau of Great Britain.

A useful publication on the effects of high explosive on solid wall structures with suggestions for the use of reinforced brickwork to give such structures the characteristics of framed constructions.

31. *Structural Precautions Against Air Attack, Theory and Practice.* By Oscar A. Bayne. Supplement to *The Builder*, January 1939.

A general study of structural precautions, containing some theories for which the data are a little uncertain. but generally following lines now commonly accepted.

EARLIER PUBLICATIONS

32. *Air Raid Damage in London.* Published by the British Fire Prevention Committee. R.I.B.A. Reference Library.

Particulars of some cases of bomb damage in London during the Great War. The book includes a map of London showing the spots on which all bombs fell.

33. *Bautechnischer Luftschutz.* By Hans Schoszberger. R.I.B.A. Reference Library.

Published in 1934, this book was written before the majority of Government-sponsored technical data was issued. The book is in German, and though sound on general lines, contains a certain amount of information now discredited or superseded.

Book Reviews

THE P.E.P. REPORT ON THE LOCATION OF INDUSTRY

The importance of the location of industry has been plain enough to most economists, sociologists, and town-planners for many years. Much study has been devoted to the far-reaching good and evil consequences that flow from developments, sound or unsound, in the distribution of factory industries—in their relation to each other, to existing and prospective populations, and their housing and urban equipment, to transport facilities, and to geographical features. A considerable body of theory and technique has been built up for the *localised* solution of the problems involved, and has been applied in a series of experiments, notably in those of the Garden City movement at Letchworth and Welwyn. But it is only comparatively recently that such studies and theories have been turned to any comprehensively *national* view of the subject, and—in this country at least—it is only in the last few years that a national planning and control of industrial location has been envisaged as a practicable piece of public policy. Elsewhere, in the totalitarian countries especially, extensive plans have been worked out, and many of their provisions are already being executed. Here, apart from emergency measures limited to the "special" areas, we are still at the discussion stage. To rapidly growing public interest and concern, the Government responded by appointing in July, 1937, a Royal Commission "on the Geographical Distribution of the Industrial Population." Voluminous evidence was given before this Commission in the first half of 1938, including systematic proposals for national planning and control of industrial development submitted by the Town Planning Institute, the Garden Cities Association and others. Subsequent international events, with their sudden stimulus to civil defence measures, have increased both the scope and the urgency of the subject. The Royal Commission's report is still in the making ; but, anticipating it and just at the right moment, comes this P.E.P. Report—the product of four years' work by an

anonymous but obviously authoritative group, far more detailed and comprehensive than any previous British publication.

That *laisser-faire* should so long have held—and should so largely still hold—the field in the location of British industry, and the growth of industrial towns is not, indeed, surprising. The theory is deeply rooted in the British economic system and closely associated with its long success ; and it is reinforced by the strong British traditions of independent local government and of private ownership and development of the land and its mineral resources. Moreover, though change and growth in industrial location were producing throughout the 19th century evils similar to those of to-day—distress and dereliction on the one hand, over-rapid and unplanned growth on the other—the capacity of government to remedy matters was severely limited. Power, raw materials, and transport were available only in a few districts, and to these all the major industries were compelled to go. Social legislation could but palliate the accompanying evils.

The problems of to-day are essentially the same, though larger and more complex. But the accompanying conditions have changed radically, and the possibility of remedy is far greater. The first part of the Report is mainly devoted to a broad survey of the key points of the contemporary position. A few only of the most significant can be mentioned here. First, that the development of motor transport, the wide distribution of electric power, and the increase in " light " as opposed to " heavy " production have greatly increased the mobility and the location-range of a large and ever-growing proportion of the nation's industries. Secondly, that the vast scale of both capital and current expenditure on the national and municipal services now provided for the industrial population makes it essential to exercise any practicable public control over industrial movements which are likely to increase the expense. Thirdly, that most of the largest industries must be assumed to be liable to severe slumps, and that many localised undertakings, especially those based on mining and quarrying, cannot be relied on to continue at all ; towns or districts with a wide variety of industries will best weather a storm. Fourthly, that the actions and policies of central and local government—both indirectly through the differential effects of tariffs, subsidies, contracts, utility services, arterial roads, etc., and directly through the " special areas " administration, trading estates and armament works—already have very powerful effects on the location of industry, but without any general plan or policy. Fifthly, that the existing system of town and country planning is of no material effect : it may (very usefully) control the siting of industries within a locality ; it can do next to nothing to determine in which localities new or moved industries should or should not be placed.

Subsequent chapters provide a series of more detailed studies : of the existing distribution of industries in Great Britain ; of the factors which actually influence industrialists in their choice of locations ; of trading estates (a particularly valuable survey) ; of the effects of industrial location on agriculture, population, employment and health ; of the industrial town as an organism whose size, industrial composition, planning—or lack of planning—and amenities profoundly affect the well-being of its inhabitants ; and of the requirements of defence which point to a policy of dispersal, not only of industry generally, but also of production plants within each industry, and of buildings on each individual site.

So on a sufficiently thorough factual basis, the main questions are faced—" should population be continuously redistributed according to the apparent needs of industry, or should industries, at least to some extent, be brought to places where employment is needed by existing populations, or should existing populations, which do not ' naturally ' attract new employment on an adequate scale, be subsidised to remain unemployed where they are ? "—and cautious but far-reaching conclusions are reached.

The vital conclusion is that a national control of industrial location is both desirable and, if wisely and flexibly devised, practicable. It should be possible by suitable surveys to determine the areas in which industrial growth should be encouraged or checked or prohibited—those centres of depression which could economically be revived by fresh enterprises, and those which should be abandoned and whose populations should be resettled elsewhere—and the means of providing more diversity and a better balance of employment in areas which are now precariously dependent on the fortunes of one or two industries.

For such studies and for the execution of the resultant policy, new powers and new machinery are needed. In its last and most important chapter the Report proposes that this machinery should take the form of an Industrial Development Commission. Its central power would be to control all new industrial location by a licensing system ; this mainly negative function would be balanced by positive powers to offer a variety of inducements to new enterprises to set up in the areas and sites whose industrial development was found most desirable on social or strategic grounds. Further, the Commission would have specific responsibility for the future extension of trading estate policy, for the evacuation of hopelessly depressed areas, and for the provision and protection of amenities in industrial districts, including the treatment of spoil-heaps, slimes and subsidences, and the abatement of smoke and effluent pollutions. More generally, it would be charged with all necessary researches, with publicity, with the provision of an information service for industrialists and with general co-ordination of the relevant activities of all central and local authorities.

The Report makes a most convincing case for the establishment of such a Commission. It is far from being the only need —in particular it requires, as is recognised in an appreciative reference to the Town Planning Institute's proposals, the complement of a National Planning Commission which would plan and co-ordinate the industrial with all other uses and developments of land—but it is the key to a sounder future both for industry itself and for the people of our industrial towns.

JOHN DOWER [*A.*]

Report on the Location of Industry in Great Britain. P.E.P. London. 1939. 10s. 6d.

SOME TECHNICAL BOOKS

Works of Reference

Specification 1939. *Architectural Press. Price 10s. 6d.*

The Architects' Journal Library of Planned Information, Volume 5. *Architectural Press. Price 21s.*

The current issues of these two works of reference show considerable improvement over those preceding them. In *Specification*, the editor, Mr. F. R. S. Yorke [*A.*], has succeeded in still more condensing the contents of his useful volume, and in doing so has been able to add one hundred and twenty-four pages of new information. The condensation has been effected by reducing as much information as possible to diagrams and tables ; there are no less than two hundred and twenty new diagrams.

At first glance, each volume of *Specification* appears to be not dissimilar from its immediate predecessor. A just comparison, however, can only be obtained by examining with the latest volume, one of ten or twelve years ago ; the enormous and steady improvement will then be apparent. Equally apparent will be the great increase in number of new materials, constructions and appliances that has occurred in recent years. It is safe to say that, had Mr. Yorke retained the somewhat discursive method of presenting his information that was in use in *Specification* ten years ago, the information contained in the current issue would have occupied at least three times the space that it does.

Volume 5 of *Planned Information* continues along well-established lines. In addition to the many new sheets in this volume, in some cases older information sheets have been revised. Although the series contains information on the sizes and fixing of equipment that is mainly proprietary, the information being merely additional to that normally supplied by manufacturers in catalogues, the real value of the series to the architectural draughtsman remains very high.

Building Construction. *By George A. Mitchell. B. T. Batsford, Ltd. Price 6s. 6d. net.*

The publication of a thirteenth edition of Mitchell's *Building Construction* is evidence enough of its continued popularity and usefulness and is sufficient warrant for its inclusion in a review of works of reference. The book retains its strongly traditional bias, as is shown by such things as the masonry of Gothic tracery, corbelled brick cornices, box window shutters and a general air of rather obsolete design in the illustrations, even with constructions which are still generally used. Nevertheless, in a changing world, it cannot be easy for the author of such a book as this to make the best of both eras—that which is passing and that which is emerging. No doubt, justification could be found for every obsolete form, just as a reviewer can be allowed to look for omissions of those new methods which he feels entitled to expect. A search for the latter shows a commendable mention and illustration of structural steelwork—although cast-iron girders are still included. Laminated boards and their uses are found in the joinery section, and there is some illustration of reinforced concrete which is, however, called by the now disappearing name of " ferro-concrete." These remarks are, however, intended to be no more than slight criticisms of a book which is generally useful and of which, the publishers say, close on a quarter of a million copies have been sold. We would like to suggest to the authors that they revise and amplify the index of the next edition. To give one example of omission : there is illustration and description of dormer window construction in the book but no reference to it in the index.

Metals

Fifth Report of the Corrosion Committee. *The Iron and Steel Institute, Special Report No. 21. Price 1s. 6d.*

Copper Pipeline Service in Buildings. *Copper Development Association.*

Aluminium Bronze. *Copper Development Association.*

When one considers the importance to civilisation of the question of the corrosion of ferrous metals, the immense value of the work of the Corrosion Committee will be appreciated. The work has now been going on for many years and its range has steadily increased. Research is concerned with many widely differing uses of steel and iron which, though they can be roughly sub-divided into " atmospheric corrosion " and " marine corrosion," extend to such questions as steel railway sleepers, pipes and tubes buried in various materials, corrosion-resistant alloys, paints and inhibitors, and even such matters as the corrosion of specimens of wrought iron and cast iron from the Crystal Palace.

One feature of the Committee's work is concerned with variations in the rate at which different atmospheres cause corrosion. For instance, it is found that the rate of corrosion of unprotected mild steel in the open atmosphere ranges from practically nil at Khartoum to its maximum at Sheffield. The addition of non-ferrous metals to steel shows a marked improvement in resistance over ordinary mild steel, and we may reasonably expect considerable increase in the manufacture of such alloys in the near future. Nevertheless, since low-alloy steels are by no means incorrodible, some form of protection, such as painting or metallic coating, remains necessary in ordinary structural work. For painting steel structures, sand-blasting or pickling, followed by the application, preferably at works, of an inhibitive priming coat, such as red lead, is recommended. Generally speaking, this research work is of interest to the manufacturer and fabricator of steelwork and ironwork, rather than to the architect, who normally specifies only what the market can supply to him immediately.

The two publications of the Copper Development Association are concerned respectively with all types of pipework in copper, and with a special decorative alloy. The former is an exceedingly useful and well-illustrated book and deals thoroughly with the whole technical side of its subject. The latter is a thorough study of the composition, characteristics and uses of aluminium bronze, and includes a photograph of the aluminium bronze lions used as decoration in the R.I.B.A. building.

Damp Walls

Damp Walls. *By Ernest G. Blake. Second Edition. The Technical Press, Ltd. Price 7s. 6d. net.*

Blake on *Damp Walls* has for some years been a standard work. The new edition has had a small amount of new matter added, mainly in connection with systems of aerating the interiors of thick walls. The book contains a great array of useful suggestions to meet all the numerous and varied ways in which damp is found in practice to penetrate buildings.

ARCHÆOLOGY AND HISTORY

CLUNIAC ARCHITECTURE*

In this beautiful and admirably illustrated volume Dr. Joan Evans has analysed with sedulous care the results of a personal investigation of buildings erected under the influence of the Order of Cluny. With the historical importance of that religious Order she has already dealt in another book, and every student of mediæval history knows the quickening effect which Cluny, under a remarkable series of abbots, exercised for some two centuries upon the life of the Church in Europe. Its zeal for the reform of monastic discipline brought it into intimate relations with monasteries that never came actually under its control and thus extended its sphere of influence beyond its own limits ; and with that zeal there went an enthusiasm for beauty and order in worship which called to its aid all the resources of art. No building was more famous in its day than the great abbey church which Pope Urban II consecrated at Cluny in 1095, second in size among churches only to St. Peter's at Rome. Even now, when only a fragment of it is left, the stupendous scale of that fragment is a revelation to the visitor ; and of late years the researches of Professor Conant have enabled us to reconstruct much that has hitherto been doubtful or obscure with regard to this great architectural achievement.

Miss Evans has wisely called her book *The Romanesque Architecture of the Order of Cluny*, for the work of the Cluniac movement in architecture was to adapt the Romanesque architecture of the neighbourhoods in which the Order settled to its own special ends without creating a definite Cluniac style. In this respect there is some contrast between it and the religious Order which in the twelfth century succeeded it in its labour of monastic reform. The motives of Cistercian architecture were derived from its native Burgundy. Wherever its influence spread, the strong Burgundian accent is noticeable ; but in the development of a special type of plan, in the use of forms which in any country can be recognised as characteristically Cistercian, above all in that studied avoidance of decorative effect which left Cistercian builders free to fix their attention upon the abstract qualities of architecture and emphasise the virtues of simplification, their work is strongly individual, nor is it until the close of its century of activity that the buildings of the Order displayed any keen susceptibility to external influence. That century is no less remarkable for Cluniac productiveness in art, but to pick out Cluniac churches as such is far less easy. No doubt the habitual employment of lay masons in connection with Cluniac establishments went far to create this distinction, for, although the Cistercian monk was no more an architect than the Cluniac, yet there can be little doubt that the prominence of the lay brother in the Order contributed to the development of art and craftmanship within its monasteries on lines of a specialised type.

Attempts to classify the varieties of French Romanesque have been numerous, and in recent times have been complicated by the intrusion of such ingenious arguments as have been used to relate to each other the churches on the routes of pilgrimages, a theory largely suggested by the extreme similarity of design in St.-Sernin at Toulouse and the cathedral church of Santiggo de Compostela. Miss Evans, while paying due attention to this circumstance, observes that experience teaches that the schools of Romanesque in France must be studied from east to west, and of this the maps which accompany her book afford full illustration, so far as her special investigations are concerned. Her design " to define and to describe the architecture of the Cluniac Order as a logical and integrated province of mediæval art " is subject to some qualification. There seems no very obvious community of style or manner between such buildings as the narthex of Saint-Leud'Esserent, in a district where Gothic was rapidly emancipating itself from Romanesque tradition in the middle of the twelfth century, the crypt of St.-Eutrope at Saintes, the cloister at Moissac, and the great portal of Saint-Gilles (Gard), the natural affinities of which, especially of the last, are with the local fashions of their respective districts. Yet of the local schools whose existence has generally been admitted as affording a convenient method of classification Cluniac buildings afford few examples. It is true that the validity of this method has been denied : the late Eugène Lefèvre-Pontalis devoted some pains to proving that the so-called school of Périgord was a myth. Even Robert de Lasteyrie, who in his masterly work on French Romanesque adopted the usual geographical system of classification, confessed in a passage quoted by Miss Evans that no one has yet succeeded in indicating the characteristics of the typical Auvergnat Romanesque church. So far, however, as that system is founded upon varieties in vaulting construction exhibited by groups of churches in certain districts, it carries some weight ; and it is worth notice that, while the domical vault was used at all events once in a reconstruction of a Cluniac church, instances of the Poitevin method of construction, in which the lofty aisles abut the barrel-vault, appear to be uncommon in the numerous Cluniac foundations of that district. Of the cluster of churches which fully illustrate the method characteristic of Auvergne—

**The Romanesque Architecture of the Order of Cluny.* By Joan Evans, Litt.D., D.Lit., F.S.A. 4to. xxxviii + 256 pp. + 259 photo. pls. + 7 maps. Cambridge : University Press. 1938. £3 3s.

Nôtre-Dame-du-Port at Clermont, Issoire, Orcival and Saint-Nectaire—none were Cluniac, though it was adopted at the Cluniac church of Saint-Etienne at Nevers, a northern member of the group.

The share of Cluny in the development of the church-plan was no doubt greatly affected by those successive experiments which culminated in Abbot Hugh's great basilica. The apse with ambulatory and radiating chapels found here its finest expression in Romanesque art, which communicated itself to other Cluniac churches, notably Paray-le-Monial, a copy on a small scale. Anxiety to emulate the five apsidal chapels of the mother church caused changes in the eastern plan of several of its daughters, as at La Charité and Lewes. These in the first instance had followed the previous church at Cluny in the three parallel apses which are characteristic of Benedictine churches and were so familiar in Normandy and England ; and it has been argued that the sojourn of William of Volpiano—a name too freely used with an architectural significance—at Cluny may have had its influence on the plan of Bernay, and, through Bernay, on that of other Norman abbey churches. However this may be, there can be no doubt that the eastern transept in the final plan of Cluny, though not imitated generally in the churches of the Order, transmitted itself to the second plan of Lewes, and through Lewes reached the Benedictine church of Canterbury, and is found in Lincoln and a few other English churches of the early thirteenth century.

If the apse with radiating chapels was not the invention of Cluny, Cluny at any rate helped to fix it as the common form of eastern termination to a church, and in the magnificent *chevet* of La Charité, of which an excellent illustration is given in this book, the triumphs of the Gothic *chevet* are strikingly anticipated. Again, the narthex, so frequently found in Burgundy and neighbouring parts of Central France, was not a specially Cluniac feature, and the two-storied fore-church at Tournus, whose actual date is problematic, is an imposing example of its use in a Benedictine church, more ambitious than the more or less contemporary narthex at Paray-le-Monial. But it was at Vézelay and the long five-bayed fore-church at Cluny that this part of the plan was worked out to the best advantage.

Still, though in such respects Cluny showed remarkable genius in the assimilation of contemporary fashions and in making them its own, in one vital respect its progress was slow. Its experiments with the barrel-vault and the groined cross-vault were numerous and constant. But in its adoption of the ribbed vault, the first of those elements which were necessary to the being of Gothic architecture, it was late in the field. If we look with wonder at the beauty of those *chapiteaux historiés*, now in the Musée Ochier at Cluny, which are to-day recognised as having adorned the columns round the high altar of the abbey church in 1095, it is equally surprising that two years earlier, in a more remote part of Europe, the foundations had been laid at Durham of the first great building which, so far as we know, was designed to be covered with ribbed vaulting in either France or England. This claim was made for Durham nearly forty years ago in the pages of this JOURNAL by Dr. John Bilson, and his opinion is mentioned in passing by Miss Evans ; but since then he has substantiated his arguments with full demonstrations, and his hypothesis is now accepted as proved even by those who for some time were inclined to claim priority for the not much later design of the abbey church at Lessay. Though Cluniac churches, such as Saint-Martin-des-Champs at Paris, took part in the early stages of that movement which, as Miss Evans notes, proceeded so rapidly in the half-century between the completion of Saint-Germer-de-Fly and the beginning of Amiens, yet in the Cluny of 1095 its chief motive force has no place and does not appear in Vézelay, revaulted in 1120 with groined cross-vaults, until the western bays of the nave. And, in a district which was conservative in its constructive methods, the adoption of this new fashion in Cluniac churches sealed it with the sanction of recognised authority.

The æsthetic pre-eminence of such churches in the matter of sculpture is beyond dispute, and though here again no monopoly can be claimed for Cluny, yet it is in the capitals in the Musée Ochier, in the great doorway between the narthex and the nave at Vézelay, in the portals of Moissac and Beaulieu (Correze), that we see the best that local art could give transformed in the service of the Order into masterpieces of world-wide fame. Of the purely historical side of Miss Evans' work there is no need to speak here, apart from praising the industry which has provided a complete list of Cluniac houses, supplemented by seven maps showing their position in the French and German provinces of the Order, and has reproduced the seventeenth-century catalogue of its monasteries and the parish churches belonging to it, with identifications. The illustrations, 259 in number, include plans, sections and some reproductions of drawings in the text, and an admirable series of photographs at the end of the book which display the riches of these buildings with excellent skill in selection. The frontispiece, from a lithograph of the west façade of Vézelay before restoration, reminds us that, if that splendid church escaped the neglect and ruin which have destroyed so much of Cluny, it nevertheless has had its own misfortunes to suffer.

A. HAMILTON THOMPSON [*Hon. A.*]

THREE THOUSAND YEARS OF CASTLES

CASTLES : A SHORT HISTORY OF FORTIFICATIONS FROM 1600 B.C. TO A.D. 1600. *By Sidney Toy, F.S.A.* [*F.*]. *xiv+241 p.+illus.+plans. 4to. London : Heinemann, 1939. 25s.*

This is an essay whose author, publisher and printer can be praised for matter, manner and format, but hardly for the sub-title, which should rather have read " A History of Castle and Fortress Building, mainly in Britain and France " —out of about 270 fortified places, in the excellent index, Britain and France account for two thirds. But the author admits his sins of omission in a disarmingly modest preface and his sins of commission are so few and so venial that his omissions may be forgiven. A comprehensive survey of the subject was much needed and will be of value alike to historians, architects and military engineers.

Fortification is the instinctive device of the weaker, more civilised, or more timid party in any dispute, and Mr. Toy points out that " even at the dawn of history " powerful military works are known to have existed. Starting from Babylon we are taken via Egypt, Greece and the Levant to Rome, and by the time we reach page 50 we have quite a good idea of what had been done before the fifth century, the beginning of the period in which our author is most

interested. The development of the " motte and bailey " castle is only briefly touched upon, the ground has already been well covered by Mrs. Armitage, like whom Mr. Toy has not noticed the standard axial dimension of the normal English motte and bailey which is so useful when tracing Norman lines under a later structure. Shell keeps are adequately dealt with and then we follow in detail the story of progress as improved methods of attack were met by growing ingenuity in defence, from square keep to round tower and to bastille, and from bailey to concentric fortress and thence to the queer South Coast castles of Henry VIII. Town walls, bridge towers and the various details of gateways, turrets and loopholes are described and always the illustrations are relevant and the author's meaning lucidly expressed without the distressing neologisms to which some modern technical and archæological writers are addicted.

Mr. Toy has not been content to follow earlier authors without question, and where he differs from them his reasons are sound and show a real grasp of his subject ; but when dealing with the Roman frontier from Solway to Tyne he displays less than his usual critical acumen. It should be clear to any architect, from the plan of the remains, that the Vallum was not the first work designed for the site ; and from the plan of the " Vallum crossings " that the present stone wall had, or was intended to have, a predecessor built of turf, clay, or other ready-to-hand materials. Excavations in recent years have proved even to Romanologists that such a non-masonry wall did, in fact, exist for at least half the length of the frontier. We are inclined to think that the Vallum, a more formidable barrier than is commonly realised, was dug to protect the backs, and the nerves, of watchers on the wall during the earlier and more unsubdued days of a province not yet grateful for Roman protection.

One or two other points might be reconsidered in a future edition of *Castles* : If Mr. Toy reads Dr. Neilson's well-known essay on Peels (Glas. Archæol. Soc. *Trans.* n.s. II, 121) he may modify his statement that the word is not found before the sixteenth century. It is unlikely that the modern octagonal sham castle at Durham follows the outline of the Norman keep, for that is described by prior Laurence as square with a projection from each face (like the later keep of Warkworth) ; and the Norman keep was unlikely to be of stone because, as Mr. Toy states on an earlier page, " If the mound was artificial then the defences on its summit must have been of timber." The three different ways in which the edges of loopholes were finished might be mentioned, with a view to their use as evidence of date, and it is certainly not true for the north of England that fish-tail loops went out of fashion in the thirteenth century. Plans of part of the sixteenth-century walls of Berwick and of the south-east turret at Norham might usefully replace one or two of the South Coast forts in chapter XVII.

Misprints are exceptionally few, we only notice " stringing " for " springing " on page 181, and " Walkworth " for " Warkworth " on page 241.

The illustrations are throughout of great merit ; good photographs from informative points of view, delightfully clear plans, and useful diagrams.

Clean print and pleasant surfaced paper add to the reader's enjoyment of this attractive book.

H. L. HONEYMAN [*A.*]

EVELYN'S LONDON

LONDON REVIVED : CONSIDERATION FOR ITS REBUILDING IN 1666. *By John Evelyn. Edited by E. S. de Beer. Sm. 8vo. vi + 62 pp. Oxford : University Press. 1938. 5s.*

There are probably few architects who do not know enough about Wren's plan for the rebuilding of the City of London to lament its non-acceptance, but comparatively few people are even aware of the plans put forward at the same time by John Evelyn and of his pamphlet *Londinium Redivivum* which he finished " within two or three dayes after the Incendium," read to Christopher Wren and presented to the King on 13 September, only seven days after the start of the fire. Some time later he gave a second copy " as complete as an imperfect copy will give me leave and the supplement of an ill memory " to the secretary of the Royal Society. One of these (we do not know which, but probably the Royal Society version), was printed in 1756 in Maitland's *History of London* and was subsequently reprinted in the R.I.B.A. JOURNAL, and a manuscript copy, dating from a century or more later than the original, is in the Guildhall Library.

Students of 17th-century architecture and planning will be grateful to Mr. E. S. de Beer and to the Oxford Press for giving us an accurate reprint of *Londinium Redivivum*, since neither of the previous printings are so easily accessible as this handy volume can be.

In his introduction Mr. de Beer shows that Evelyn was able to produce his plan and the report so soon after the event because for many years he had interested himself in questions relating to London ; he quotes Evelyn's *Character of England* to show him as a man who, before the date of *Londinium Redivivum*, had made pertinent criticisms of the city and its people : " the buildings are as deformed as the minds and confusions of the people," and " a *City* consisting of a wooden, northern and inartificiall congestion of Houses ; some of the principall streets so narrow, as there is nothing more deformed, and unlike than the prospect of it at a distance and its *asymmetric* within the walls." We know, too, of his troubled enquiry into smoke pollution. In 1662 he had been a Commissioner for the Repairing of High-Wayes and Sewers. . . . These interests had obviously trained Evelyn as well almost or quite as Wren had been trained to propose a plan for London. Both " demanded regularity, uniformity, architectural discipline, qualities possessing a sort of moral beauty as indicative of civic self-respect and at the same time essential for the architecture of display."

In the introduction Mr. de Beer briefly discusses the precedents for grand city plans which might have been known to Evelyn, and contrasts his plan with Wren's, suggesting that Evelyn's plans were " improved and regularised " versions of what had existed rather than a complete remodelling as proposed by Wren. The merit of his plan, the editor suggests, lies in Evelyn's attempt to unite the results of his observation and experience with the special features of the site.

This well printed and carefully edited republication of *London Revived* is a useful addition to the books on this fascinating period and event.

CARDIFF'S CIVIC SENSE

CARDIFF CIVIC SOCIETY. *5th Annual Report, 1937-38.*

The report includes the chairman's speech at the annual meeting, in which reference is made to the effective place the Society has in the guidance of Cardiff's development and various good works are reported. This is followed by a stimulating paper by Mr. S. C. Ramsey on " The City and its Functions," which was delivered at the annual meeting.

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about price and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

Normally the journals referred to in this review, all of which are in the R.I.B.A. reference library, cannot be borrowed. Members are, however, asked to encourage their local public libraries and their local society's library to take as many journals as they can afford; and they are asked, for the convenience of local members, to notify the R.I.B.A. of what journals are known to exist in public or private hands in their own neighbourhood.

SCHOOLS

ARKITEKTEN (COPENHAGEN). *1939. No. 3. P. 37.*
School at Odense, by J. Christensen, accommodating 1,000-1,200 children.

MUSEUMS AND EXHIBITIONS

ARCHITECTURAL RECORD (NEW YORK). *1939. April. P. 43.*
Plans and photographs of some of the buildings at the Golden Gate International Exposition, San Francisco. One of the more interesting is the Hall of Floriculture, by Mark Daniels, a wood-framed structure, glazed entirely with "celloglass," which is stretched over the exterior of the frame and secured with battens.

LA CONSTRUCTION MODERNE (PARIS). *1939. 7 & 14 May. P. 306.*
The "Musée des Travaux Publics," Paris, by A.-G. Perret.

ARKITEKTEN (COPENHAGEN). *1939. No. 3. P. 45.*
"Fyens Forum" at Odense, by H. Krogsgaard, a building for lectures and exhibitions, etc. Seating about 4,000, it includes a restaurant with accommodation for about 200.

RADIO

ARCHITECTURAL REVIEW. *1939. May. P. 221.*
Broadcasting studios, Hollywood, by W. Lescaze and Earl Heitschmidt.

CIVIC

FORM (STOCKHOLM). *1939. No. 2. P. 27.*
Town hall at Halmstads, by Ahlbom and Sterner. A number of illustrations of the interiors.

HOTELS AND RESTAURANTS

R.I.B.A. JOURNAL. *1939. 3 April. P. 554.*
Recent Inns in the State Management Districts, by Harry Redfern [*F.*].

OFFICES

ARCHITECT AND BUILDING NEWS. *1939. 12 May. P. 148.*
The new Post Office at Lyons, by M. Roux-Spitz.

BOUWKUNDIG WEEKBLAD ARCHITECTURA (AMSTERDAM). *1939. No. 18. P. 200.*
Co-operative Society's administrative building in Rotterdam, by G. H. Holt.

SHOPS

ARCHITECTS' JOURNAL. *1939. 11 May. P. 763.*
H.M.V. Showrooms and Offices, Oxford Street, by Joseph Emberton [*F.*].

ARCHITECT AND BUILDING NEWS. *1939. 12 May. P. 156.*
A small greengrocer's shop on a corner site in Kentish Town, with an independent three-bedroom flat above, by E. D. Mills [*A.*].

ARCHITECTURAL RECORD (NEW YORK). *1939. April. P. 95.*
Good and detailed section on retail shops, dealing with relatively small stores whose range of merchandise is limited to a fairly distinct field, i.e., women's wear, books, flowers, etc. Plans and illustrations are given of a large number of shops, and very useful diagrams giving data and sizes for display and storage.

INDUSTRIAL

JOURNAL OF THE INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *1939. April. P. 48.*
Valuable paper on air conditioning in industry, examining the physiological reactions of individual workers to high effective temperatures. The investigations on which the paper is based were carried out at the U.S. Bureau of Mines, Pittsburgh.

THE STRUCTURAL ENGINEER. *1939. May. P. 258.*
Paper on floors for industrial purposes, by R. Fitzmaurice and F. M. Lea. Useful tables are included, classifying wearing conditions and surfaces for floors, and the effect of various agencies on flooring materials.

TRANSPORT AND BRIDGES

ARCHITECTURAL REVIEW. *1939. May. P. 229.*
"London to Bath," a topographical and critical survey of the Bath Road, by John Piper. Some fine illustrations.

BUILDING. *1939. May. P. 187.*
An article on the new German high-speed motor highways.

WELFARE AND COMMUNITY BUILDINGS

R.I.B.A. JOURNAL. *1939. 8 May. P. 673.*

ARCHITECTURAL REVIEW. *1939. May. P. 247.*

ARCHITECT AND BUILDING NEWS. *1939. 5 May. P. 121.*
St. Dunstan's Home, Brighton, by Francis Lorne [*F.*], of Sir John Burnet, Tait & Lorne [*FF.*], a convalescent and holiday home for blind ex-servicemen of the last world war.

HOSPITALS, CLINICS, ETC.

ARCHITECT AND BUILDING NEWS. *1939. 12 May. P. 154.*
County clinic at Cambridge, by S. E. Urwin [*A.*], a tuberculosis clinic and clinic for school medical services.

L'ARCHITECTURE (PARIS). *1939. April. P. 126.*
The "hospital city" at Lille, by J. Walter, Cassan and L. Madeline.

ARCHITEKT S.I.A. (PRAGUE). *1939. No. 4. P. 65.*
Children's sanatorium at Vordingborg, by K. Fisker and C. F. Möller.

RECREATION BUILDINGS

ARCHITECTS' JOURNAL. *1939. 11 May. P. 768.*
Recreation Buildings and Ground at Hamstead, Staffordshire, by J. H. Forshaw [*F.*], and W. A. Woodland, with J. D. O'Kelly, landscape architect. The scheme provides facilities for complete indoor and outdoor recreation for miners and their families. Fully described and illustrated.

ARCHITEKT S.I.A. (PRAGUE). *1939. No. 4. P. 53.*
The " Bellevue " spa and recreation centre near Copenhagen, by A. Jacobsen. The scheme includes a summer theatre with a sliding roof, restaurant, club, and a group of terrace houses.

THEATRES, CINEMAS

ARCHITECTURAL RECORD (NEW YORK). *1939. April. P. 61.*
Winning designs in the competition for a National Theatre and Fine Arts building at the College of William and Mary. First, E. Saarinen, R. Rapson and F. James ; second and third, P. L. Goodwin and E. D. Stone.

RELIGIOUS

ARCHITECT AND BUILDING NEWS. *1939. 12 May. P. 145.*
Tenth Church of Christ, Scientist, at Blackheath, by O. P. Milne [*F.*].

ARCHITECTURAL RECORD (NEW YORK). *1939. April. P. 76.*
Illustrated article on recent trends in Catholic Church design in America, by Maurice Lavanoux.

HOUSING

LA CONSTRUCTION MODERNE (PARIS). *1939. 16 and 23 April. P. 286.*
Working-class housing in Amsterdam ; an article by D. Petit.

ARCHITETTURA (ROME). *1939. January. P. 39.*
Long and illustrated review of housing in the U.S.A.

FLATS

ARCHITECTURAL DESIGN AND CONSTRUCTION. *1939. April. P. 137.*
Reference section on flats and housing. Article on recent developments in flat planning by T. P. Bennett [*F.*] and G. L. Cruikshank [*A.*] ; article on housing in New Zealand ; good representative selection of recent blocks of flats in England ; and several pages of technical data, dealing with planning, fittings, materials, heating, equipment, and furnishings of flats.

HOUSES

ARCHITECTURAL FORUM (NEW YORK). *1939. April.*
Special number on the low cost house. Good analysis of the market for this class of dwelling. Section on planning and design for quantity production, giving estimated costs in labour and materials for various types. Section on construction, illustrating a number of ways in which costs are being cut by architects and builders in America, and dealing with structure, finishes, fittings and services. Further sections deal with labour cost, quantity production, land and services, maintenance and depreciation, heating and hot water, and taxes and insurance. Fifty low cost houses are illustrated, recently built in America, and costing between £6 and £10 per month in rent equivalent. Costs are included, in some cases the actual selling price complete with land and equipment. A copy has been added to the R.I.B.A. Loan Library.

MATERIALS

ARCHITECTURAL REVIEW. *1939. May. P. 261.*
Supplement on Tiles, dealing with tile-work in the past, tile-work to-day, a summary of tile types, and notes on failures in tiles.

THE NATIONAL BUILDER. *1939. May. P. 330.*
Article on Finishes for Concrete, based on investigations being carried out at the Building Research Station in co-operation with the Cement and Concrete Association. Continental practice is reviewed.

WOOD. *1939. March.*
A number of articles on softwoods, dealing with types of softwoods and their uses, the principal softwood countries, the preservation of softwoods, and their structural use (trusses, etc.).

ENGINEERING INSPECTION. *1939. January-March. P. 4.*
Article on the occurrence, origin and detection of flaws and defects in steel, by Dr. Edwin Gregory.

PENCIL POINTS (NEW YORK). *1939. March. P. 181.*
Article on porcelain enamelled iron sheets, by D. H. Grootenboer and Don Graf, dealing with the properties, characteristics and construction methods. Well illustrated with photographs and diagrams of their application.

CONSTRUCTION

THE STRUCTURAL ENGINEER. *1939. April. P. 198.*
Valuable paper on Reinforced Brickwork, by C. W. Hamann and L. W. Burridge ; dealing with its historical development, fundamental theory of design, summaries of outstanding investigations, detailed descriptions of tests on British examples, examples of its actual use, a tentative code of practice, and a summary of the present position, potentialities and future prospects.

CONCRETE AND CONSTRUCTIONAL ENGINEERING. *1939. March. P. 162.*
Reinforced concrete bridges in Scotland.

NATIONAL BUILDER. *1939. April. P. 300.*
Construction details for garden ponds and pools.

PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS. *1939. March. P. 467.*
Discussion on Wind Forces in a tall building, by A. Smith and V. R. Bergman.

PENCIL POINTS (NEW YORK). *1939. April. P. 231.*
Comparative details of flat roof overhangs.

EQUIPMENT

PENCIL POINTS (NEW YORK). *1939. March. P. 161.*
Photographs and details of built-in furniture ; cupboards, bookshelves, seats, desks, etc.

FORM (STOCKHOLM). *1939. No. 9. P. 190.*
Good photographs and drawings of contemporary Danish furniture.

BAUGILDE (BERLIN). *1939. 5 March. P. 221.*
Technical article on radiant panel heating in floors and ceilings.

HISTORICAL

COUNTRY LIFE. *1939. 4 March. P. 224.*
Part II of a series of well illustrated articles on Georgian London, dealing with squares in Islington, by Christopher Hussey.

LA CONSTRUCTION MODERNE (PARIS). *1939. 19 March. P. 254.*
Part II of an article on the restoration of Reims Cathedral.

L'INGEGNERE (MILAN). *1939. No. 3. P. 181.*
Article on the restoration of the Church of Santa Maria delle Grazie at Milan.

L'INGEGNERE (MILAN). *1939. No. 3. P. 194.*
Article on " studies in irrigation," by Leonardo da Vinci, illustrated with his own drawings.

BIOGRAPHICAL

R.I.B.A. JOURNAL. *1939. 3 April. P. 537.*
Article on George Walton, his life and work, by Nikolaus Pevsner. A number of valuable illustrations.

ARCHITECTS' JOURNAL. *1939. 4 May. P. 731.*
Article on "Frank Lloyd Wright's Peaceful Penetration of Europe," by Nikolaus Pevsner.

COUNTRY LIFE. *1939. 22 April. P. 423.*
Article on Nathaniel Ireson (1686-1769), master-builder and potter.

DECORATION. *1939. Spring. P. 33.*
Article on the work of Aalto, by P. Morton Shand.

ARKADY (WARSAW). *1939. No. 2. P. 71.*
Article on Frank Lloyd Wright, with numerous illustrations of Taliesin and Honeycomb House.

ÆSTHETICS

SOUTH AFRICAN ARCHITECTURAL RECORD (JOHANNESBURG). *1939. March. P. 76.*
Article on "Architecture in Modern Painting, a study in absorption and reinterpretation." Well illustrated.

TEXNIKA XPONIKA (ATHENS). *1939. 15 February. P. 105.*
Article on optics and the æsthetics of architecture, with numerous diagrams.

TOWN AND COUNTRY PLANNING

ARCHITECTS' JOURNAL. *1939. 16 March. P. 441.*
The new Cromwell Road extension; a comparison by A. G. Ling [*A.*] between the Parliamentary scheme and the scheme by The University College School of Town Planning which won the London Society's prize.

BUILDING. *1939. April. P. 141.*
A new plan for Hyde Park Corner, and re-siting of St. George's Hospital, by Hannes Schreiner.

JOURNAL OF THE TOWN PLANNING INSTITUTE. *1939. March. P. 151.*
The location and design of trading estates, an article by Professor W. G. Holford [*A.*].

JOURNAL OF THE TOWN PLANNING INSTITUTE. *1939. March. P. 167.*
Paper on "The Planning of a City," by E. A. A. Rowse [*A.*], dealing particularly with a town for 50,000 inhabitants on a site in Berkshire planned by a group of young architects in connection with the School of Planning and Research for National Development.

C.P.R.E. REPORT. *1939. February and March. P. 18.*
Memorandum on National Camps issued by the C.P.R.E., containing recommendations on siting, distribution and location, size and grouping, and construction and design.

L'ARCHITECTURE D'AUJORD'HUI (PARIS). *1939. March.*
Special number dealing with twenty years of applied urbanism in France, and the efforts of urbanists and administrators since the passing of the Cornudet Law in 1919. The number is purely documentary, and no attempt is made at a critical commentary. It is liberally illustrated with plans and photographs, and deals with the Paris region, Lyons, Marseilles, Nimes, Lille, Perpignan, Le Mans, Grenoble, Orléans, Poitiers, Angers, Nantes, Nevers, La Rochelle, Belfort, Besançon, Perigueux, Le Puy, Abbeville, Dinan, Saint-Emilion, Suresnes, Deuil, Gérardmer, Romans, Vichy, Cauterets, Neris-les-Bains, Bourbon-Lancy, Luxeuil-les-Bains, Val d'Isère, Ecouen; urbanism in Northern Africa, Rabat, Casablanca, Marrakech, Meknès, in Tunisia, Maison Carrée, Ain-Beda, Tebessa, Oued-Zenati, Dakar, and urbanism in the Sahara.

BAUWELT (BERLIN). *1939. 20 April. P. 1.*
Designs by Paul Köhler for a town of 22,000. Garden suburb planning with typical subsistence homesteads and "peasant" architecture. Mostly detached houses, but some in terraces. Community buildings and school.

POLICE BUILDINGS

ARCHITECTS' JOURNAL. *1939. 30 March. P. 544.*
Headquarters for the 318th (Surrey) Anti-Aircraft Company, R.E. (T.A.), by J. Hatchard Smith & Sons.

ARCHITECTS' JOURNAL. *1939. 6 April. P. 563.*

ARCHITECT AND BUILDING NEWS. *1939. 7 April. P. 7.*
Bishopsgate Police Station, by Vine & Vine [*AA.*], comprising the police station proper, seventy single men's bedrooms, married quarters in the form of flats, and a police hospital on the top floor.

ARCHITECTS' JOURNAL. *1939. 13 April. P. 605.*
Metropolitan Police Section House, W.C.1, by G. Mackenzie Trench, and D. T. Edwards and A. L. Luke, comprising bedrooms, dining room, lounge, library, etc.

ARCHITECTS' JOURNAL. *1939. 20 April. P. 645.*

ARCHITECT AND BUILDING NEWS. *1939. 21 April. P. 72.*
Metropolitan Police Section House, Blackheath Road, by Farquharson and McMorran [*F./A.*], providing living accommodation for 120 single men.

A.R.P.

R.I.B.A. JOURNAL. *1939. 8 May. P. 661.*
Article on structural air raid precautions with regard to existing buildings, consisting of a general note on the present position in respect of legal requirements, etc., Part I of the Building Code attached to the Civil Defence Bill, a general article on the measures to be adopted in existing buildings, and a list of official publications already published or to be published shortly.

ARCHITECTS' JOURNAL. *1939. 4 May. P. 722.*
Article by B. Lubetkin, arguing that the *degree of protection* to be provided is the real A.R.P. problem, and must be considered separately in each area.

ARCHITECTS' JOURNAL. *1939. 11 May. P. 761.*
Article by B. Lubetkin, giving his reasons for believing that basement shelters are the least satisfactory of any type.

JOURNAL OF THE INSTITUTION OF CIVIL ENGINEERS. *1939. April. P. 573.*
Paper on constructional work on air raid shelters and other protective works, by R. W. G. Clerke, describing works that have either been constructed or are under construction. The works cover the protection of personnel from gas and incendiary bombs, light explosive bombs, blast and fragmentation, demolition, concussion, and the protection of power plant.

HEATING AND VENTILATING ENGINEER. *1939. April. P. 447.*
Article on the essentials of air raid shelter ventilation.

ILLUSTRATED CARPENTER AND BUILDER. *1939. 7 April. P. 871.*
A.R.P. in factories; details of shelters built by E. K. Cole, Ltd., the radio manufacturers.

ARCHITECTURAL RECORD (NEW YORK). *1939. March. P. 68.*
"What does military design offer the planning of Peace?" An article by Douglas Haskell examining the effect of the protection of the population against air raids upon national, regional and city planning. The comparative vulnerability of various types of development is discussed.

Accessions to the Library

1938-1939—XII

Lists of all books, pamphlets, drawings and photographs presented to or purchased by the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists of reference.

Any notes which appear in the lists are published without prejudice to a further and more detailed criticism.

Books presented by publishers for review marked R.

Books purchased marked P.

* *Books of which there is at least one copy in the Loan Library*

ARCHITECTURE

BAROZZI (GIACOMO) *da Vignola* E.W. 72 : 013 (45)] 729.321
Regola delli cinque ordini, *&c.* [French.]
Nouveau livre des cinq ordres d'architecture, *&c.*
fo. Paris. 1781. (£2 5s.) P.
Interleaved, with notes, apparently by J. W. Theisejans, junr., *about* 1871.

EDUCATION

R.I.B.A.
Prizes and studentships. 1939-1940.
[1939.

BUILDING TYPES

(CIVIL)

ARCHITECTURAL RECORD 725.511+725.5+725.7/8
*[Special number : Hospitals and medical centers.] (June.)
11¾″. New York. 1935. R. *To Loan Library.*

ARCHITECTURAL FORUM 725.822
*[Special reference number :] Theatres. (Sept.)
¾″. New York. 1932. R. *To Loan Library.*

BURRIS-MEYER (HAROLD) *and* COLE (E. C.) 725.822.93 : 792
Scenery for the theatre. *&c.*
9¼″. xiii+473 pp. Lond. : Harrap. 1939. £1 10s. R.

(RELIGIOUS)

EARDLEY (F. STENTON) 726.54 (42.25K)+91 (42.25 HK)
Horsted Keynes, Sussex. The church and parish of St. Giles.
7¾″. ix+150 pp.+pls. Lond. : Macmillan. 1939.
3s. 6d., 10s. R.

(EDUCATIONAL)

ARCHITECTURAL RECORD 727.1
*[Special number : Schools.] (Aug.)
11¾″. New York. 1934. R. *To Loan Library.*

×MS.
DAVIS (R. V.) 727.1 : 728
The Planning of public school boarding houses for boys. (Thesis for Final Examination, Dec.)
typescript & *Ink D.* 13″. 1938.
Presented by the Author.

ARCHITECTURAL FORUM 727.61+727.8
*[Special] Reference number : Museums and libraries. (June.)
11¾″. [New York.] 1932. R. *To Loan Library.*

(DOMESTIC)

MIDDLETON (CHARLES) E.W. 728.6+728.84/86
Picturesque and architectural views for cottages, farm houses, and country villas.
fo. London. 1793. (£5 10s.) P.

SOANE (*Sir* JOHN) E.W. 728.84/86
Sketches in architecture. Containing plans and elevations of cottages, villas, *&c.*
fo. London. 1793. (£4 10s.) P.

WEALE (JOHN), *ed. and publ.* S.R. 728.86
Designs and examples of cottages, villas, and country houses, *&c.*
4o. Lond. 1857. (6s. 6d.) P.

STARFORTH (JOHN) S.R. 728.91
The Architecture of the park. A series of designs *&c.* [Lodges.]
4o. Edinburgh. 1890. (4s. 6d.) P.

ALLIED ARTS AND ARCHÆOLOGY

ROYAL ACADEMY OF ARTS
The Exhibition . . . 1939.
[1939.] *Presented.*

STEFANESCU (I. D.) 7.033.2/4 (498)
L'Art byzantin et l'art lombard en Transylvanie. [Also] Peintures murales de Valachie et de Moldavie. (Recherches d'iconographie et d'histoire.)
12¾″. ix+166 pp.+lvi pls. Paris : Geuthner. 1938.
(£2 7s.) P.

VORSTEHER (PAUL), *publ.* shelved 7.034 (43)
Altbergische heimatkunst.
749.03 (43)
i : Geschnitzte eichenmöbel. Introd. by Otto Schell. (Altbergische eichen-moebel, *cover title.*)
729.382 (43)
ii : [? . . . haus-türen.] Introd. by — Werdelmann. (*No title-page or text.* A— h— -t—, *cover title.*)
729.391 (43)+729.098 (43)
iii. Innenarchitektur. Introd. by Wilhelm Kreis. (A— dielen und treppen, *cover title.*)
3 vols. pfo. 12¼″, 12½″. Godesberg. [192—.]
(10s. 6d. per vol.) P.

TOWNDROW (K. R.) 7.036 (42) : 92S
Alfred Stevens, architectural sculptor, painter and designer. *&c.*
9¼″. xxix+294 pp.+42 pls. Lond. : Constable.
1939. £1 1s. R.

VORSTEHER (PAUL), *editor* 749.034 (43) 88
Kunstformen-bibliothek.
ii : Erste hälfte des neunzehnten jahrhunderts. Introd. by W. H. Dammann. (Biedermeier, *cover title.*)
pfo. 12½″. Godesberg : Vorsteher. [1922.] (10s. 6d.) P.

[HYDERABAD] NIZAM'S DOMINIONS : ARCHÆOLOGICAL DEPARTMENT
Annual report. [On] 1934-35 ; [on] 1935-36.
1938, 1938. R.

902.6 : 7.032.5 (35 U)
JOINT EXPEDITION OF THE BRITISH MUSEUM AND OF THE UNIVERSITY MUSEUM, U— OF PENNSYLVANIA, TO MESOPOTAMIA
Ur excavations. By *Sir* [C.] Leonard Woolley. (Pubns. of the Joint Expedition *&c.*)
Vol. v. The ziggurat and its surroundings.
12¾″. [Oxford, Lond., &c.] 1939. (£3 3*s.* 6*d.*, *by subscn.*) £2 10*s.* R.
Only vol. ii *in Library.*
Vol. iv *not yet published.*

BUILDING SCIENCE

STRUCTURAL ELEMENTS

WOLLASTON (C. H.) 69.021.15
Foundations and earth pressures.
8½″. 295 pp. Lond. : Hutchinson's Scientific and Technical Pubns. 1939. £1 1*s.* P.

CONSTRUCTION

BRITISH STANDARDS INSTITUTION 69 (083.54)
British standard specifications :—
693.068.2 : 693.51
No. 834 . . . for precast concrete blocks for walls.
1939. 2*s.* R.
693.068.34 : 691.74
No. 602 . . . for lead pipes for other than chemical purposes. Revised ed. 1939. 2*s.* R.

ARCHITECTURE D'AUJOURD'HUI 694.1 : 72.036.6
*[Special number :] Le Bois et ses nouvelles applications dans la construction. (Nov.)
12¼″. Boulogne. 1938. (35-38 fr. (4*s.* or less).) P.
To Loan Library.

SANITARY SCIENCE, EQUIPMENT, PROOFING

WHITEHURST (JOHN) E.W. 697.9+697.8+712.6 : 697.325
Observations on the ventilation of rooms ; on the construction of chimneys ; and on garden stoves.
4o. London. 1794. (10*s.*) P.

ARCHITECTS' JOURNAL 699.844.7
*[Special number.] Silence. (19 May.)
12½″. Lond. 1938. 1*s.* P. *To Loan Library.*

ARUP (O. N.) 699.895
*Design, cost, construction, and relative safety of trench, surface, bomb-proof and other air-raid shelters. *&c.*
ob. 9½″×13″. v+63 pp. Lond. : Concrete Pubns. Ltd. [1939.] 6*s.* R. & P.

BUILDER, *journal* 699.895
Structural precautions against air attack. Nos. 2, 3. By Oscar Bayne and others. (Suppts., 24 Feb., 24 Mar.)
12¾″. Lond. 1939. R.

699.895 box
CLAY PRODUCTS TECHNICAL BUREAU OF GREAT BRITAIN
A.R.P. structural. Bulletin No. AR. 1—.
pams. 11″. Lond. [1939—.] R.

699.895 : 016
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH : BUILDING RESEARCH STATION LIBRARY
* Air raid protection. Abstracts of published papers. (Bibliog. No. 44.)
dupl. typescript. 12″. 1939.
Presented (3) *by the Department.*

ENGINEERING

AMERICAN SOCIETY OF CIVIL ENGINEERS
Proceedings. Year book number as of Mar. 1 1939. (Vol. 65. No. 4, pt. 2. Apl.)
1939. R.

TOPOGRAPHY

91 (42.1) [712.21+711.521
LONDON COUNTY COUNCIL *and* LONDON [PASSENGER] TRANSPORT [BOARD]
Open-air London. An illustrated guide to . . . open spaces . . . including the Green Belt.
7¼″. xiv+145 pp. Lond. 1939. 1*s.* P.

MIDDLESEX COUNTY COUNCIL 91 (42.19) : 352
Middlesex. The jubilee of the C— C— 1889—1939. By C. W. Radcliffe.
9¾″. 240 pp. Lond. : Evans Bros. [1939.] R.

WARREN (C. H.) 91 (42.35/38)
West Country (Somerset, Devon and Cornwall). (The Face of Britain *series.*)
8¼″. viii+120 pp.+pls. Lond. Batsford. 1938. 8*s.* 6*d.* R.

HIELSCHER (KURT), *illus.* 91 (436)
Osterreich : landschaft und baukunst. Introd. and notes on illus. by Rudolf Guby. (Orbis Terrarum *series.*)
12″. 37 pp.+304 pls. (backed). Berlin : Wasmuth. [1928.]
Presented by Mr. Felix Augenfeld.

FEDDEN (ROBIN, *i.e.* H. ROMILLY) 91 (62)
The Land of Egypt. Illus. from phots. by A. Costa and others.
8¾″. viii+120 pp.+pls. Lond. : Batsford. 1939. 12*s.* 6*d.* R.

TOWN AND COUNTRY PLANNING, GARDENS

PEARSON (S. V.) 711.4—167 (42.1)
London's overgrowth and the causes of swollen towns.
8½″. 192 pp.+pls. Lond. : C. W. Daniel Co. 1939. 8*s.* 6*d.* P.

QUEEN'S INSTITUTE OF DISTRICT NURSING 712 (42)
The Gardens of England and Wales . . . Illus. edn. Pref. by Arthur Oswald. 1939.
7½″. Lond. : Country Life. [1939.] 1*s.* P.

DRAWINGS

LONDON TOPOGRAPHICAL SOCIETY
Survey of all lands . . . [of] Worshipful Company of the Clothworkers *&c.*—Neighbourhood of the Fleet Prison in 1612. —in 1728. Raphe Treswell, surveyed. (Pubn. for 1939.)
2 sheets in pfo. Lond. (1612, 1728) 1939. P. (by subscrn.).

Correspondence

MR. FRANK LLOYD WRIGHT'S VISIT

East Meon,
Hampshire
29.4.39

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—The visit of Mr. Frank Lloyd Wright, the eminent American architect of the Middle West, and of European fame, is an event of exceptional interest to all concerned in the arts of living with distinction.

Mr. Lloyd Wright asserts that "a house is a machine in which to live, but architecture begins where the concept of the house ends." "Architecture expresses human life, machines do not, nor does any appliance whatsoever. Appliances only serve life."

Dicta of this kind abound in his lectures, as, "regard it just as desirable to build a chicken house to build a cathedral. The size of the project means little in art beyond the money matter. It is the quality of character that really counts." How good this is, but how irrelevant the results, as Lutyens says, "if trippers took the place of cow or rabbit, the rabbit run becomes gravel path."

The control in terms of recognised form and colour of our surroundings has always been a matter of concern to, say, educated community—since the industrial revolution it has become the despair of all cultured minds. How is the beauty of Nature and its reactions in the works of man to be preserved, and man's requirements for comfort and delight related thereto?

Mr. Lloyd Wright comes from America to give us his philosophy of the control of the mechanised world into terms of beauty, and there seems much in this to make for a more logical and tidier world, but we cannot live except in familiar buildings, and we cannot act except on familiar theories. The moral is (as a great writer has said), "that architecture and all other things await the agreement of man on more fundamental conceptions of life, but we cannot improve architecture or improve art or improve education, or even improve politics, until we have improved life and the conception of life." It is well to be reminded that American architecture began in Virginia with a blend of Georgian craftsmanship and the first architect of importance was its President, Jefferson, who drafted that masterpiece of English prose on which the faith of the American commonwealth is based. Jefferson introduced a form of Palladianism, coloured by the English Inigo Jones, into the building of America, retaining still a blend of the native Virginian craftsmanship, even in the capital and the President's house, Washington. It is interesting to see that the fine Embassy buildings by a great English architect derive therefrom. Jefferson created monumental building as essential to the dignity of the State, and was the forerunner of so many notable architects, such as Richardson, Maurice Hunt, McKim and Burnham.

Lecturing to students, Mr. Lloyd Wright said, "beware of the architectural school, except as the exponent of engineering." If we are all eventually doomed to live in elevated community towers, the architect must certainly be a fully qualified engineer as Mr. Lloyd Wright is himself. The disintegration of the town surely suggests a return to a less congested life, and the end of any necessity for a skyscraper.

As architecture in America is the most vitalised of the arts and the most closely allied to national needs and taste, Mr. Lloyd Wright should have a great hearing for the exposition of his views and how the traditional methods of building since the days of the Greeks can be so fundamentally altered in the service of mankind.

Yours faithfully,
P. MORLEY-HORDER [*F.*]

A.R.P. POLICY

33 Worcester Close,
Mitcham, Surrey
11.5.39

To the Editor, JOURNAL R.I.B.A.

SIR,—It is no doubt perfectly true that, as is suggested in the JOURNAL for 24 April, the Government has access to all the data upon which a shelter policy should be founded. But it does not follow that the policy with which we are now confronted must inevitably be a sound one; indeed, there is only too much reason to believe the opposite. In the first place, no valid grounds for rejecting "heavily protected" shelters have ever been publicly stated: the relevant paragraphs of the Hailey Report contain little but the truism that the more we spend on passive defence the less we have for guns, and a demonstration that upon certain assumptions a number of schemes for deep shelters are defective. The first of these arguments is valueless without a comparison of the respective advantages and disadvantages of shelters and active defence; and the second, while it may possibly be justifiable criticism of the particular schemes discussed, cannot be accepted as proof that deep shelters free from the defects complained of are in the nature of things impracticable.

It may be possible—though not perhaps probable—for the official policy to be right even if the arguments upon which it purports to be based are logically meaningless; but even so the proposals put forward in accordance with that policy are open to serious if not fundamental criticism. The Code attached to the Civil Defence Bill gives plans for trench systems repeating all the faults of those laid out in the parks during the Munich crisis; and illustrates a basement holding 720 people which, in spite of the walls dividing it, might even upon the official assumptions be completely wiped out by a direct hit. The figures given for debris loads (and repeated in the current issue of the JOURNAL) seem, even as minima, absurdly low: 100 lbs. per square foot for every floor over will in many cases hardly cover the weight of the material in the floor itself, so that there is not much margin for any brickwork that may be thrown on to the basement roof and none at all for the immensely destructive effects of impact. This commonsense view is confirmed by the fact that the Swiss figures (the adoption of which is advocated by the Institute of Structural Engineers) are three or four times higher than those in the Code. If a place containing 720 people and giving no protection against direct hits, not much against

blast and splinters, and dependent for safety from debris upon a providential suspension of the laws of the universe, is to be called a shelter, and if the information and the policy in accordance with which it is built are to be called sound, it is difficult to see that those words have any longer the meanings that used to attach to them.

It may not be within the Institute's province to question in principle the Government's decisions ; but must it express so complacently its approval of a policy that, at its best, would result in the loss of tens of thousands of lives and that, in the way it is being applied, fails to give even the inadequate degree of protection originally envisaged ?

Yours faithfully,

A. P. HODGSON [*A.*]

BOROUGH OF BEXLEY

23 Throgmorton Street, E.C.2

To the Editor, JOURNAL R.I.B.A. *8.5.39*

DEAR SIR,—May I draw your attention to an error in the Annual Report on page 592 of the JOURNAL of 24 April. The appointment of Mr. R. H. Uren [*A.*] relates to new municipal buildings for the Borough of *Bexley,* which comprises the following districts : Bexley, Bexleyheath, Welling and East Wickham, and has the largest population of any borough in Kent.

Yours faithfully,

G. J. BUCKINGHAM [*F.*],

Mayor and Chairman of the Municipal Buildings Committee

Obituaries

D. PUGH-JONES [*F.*]

Mr. David Pugh-Jones, whose death on 26 January we regret to record, was born in 1865 and received his training in the office of Mr. Thomas Arnold in Llanelly. Later he became assistant to Mr. Jacob Rees, Pentre. He worked in partnership with Mr. Griffiths at Tonypandy for some time and subsequently practised alone in Cardiff until his appointment as County Architect of Glamorgan (Eastern Division) in 1904. This post he held until 1932, and during this time was responsible for the erection of 78 schools and other county buildings, including the Twyn, Caerphilly, modern boys' and girls' school at a cost of £44,829. Altogether he was concerned with works involving an expenditure of more than £1,000,000.

Mr. Pugh-Jones was a Fellow of the Surveyors' Institution and of the Geological Society. He was also a member of the Cambrian Archæological Society and an examiner of the Royal Sanitary Institute, of which he was a Fellow. He was a member of the Executive Committee of the Official Architects' Association, and was also for several years a member of its Council. He was also a member of the Advisory Committee for Wales on Buildings under the Local Government Board at the end of the war.

T. M. CAPPON [*Ret. F.*]

We regret to record the death, at the age of 75, of Mr. T. M. Cappon, a notable architect and public figure in Dundee. He was a son of Mr. James Cappon, shipmaster, whose father served under Lord Nelson, and was educated at Newport Public School and Dundee High School.

He showed a great aptitude for drawing, and after leaving school entered the office of Messrs. C. & L. Ower, architects, Dundee.

His studies were carried on at University College, Dundee, where, under Sir Alfred Ewing, he gained first place for surveying and levelling in 1885. At this time Mr. Cappon had the offer of a good appointment in America, which he declined in view of the fact that he was determined to start practice on his own account, although barely 22 years of age. His rise as an architect was rapid and successful. He retired in 1929 after having been in practice for 43 years.

His work is well known in Fife, Angus and Perth for its character and individuality and the delicacy and grace of its detail. He also exhibited at the Royal Academy.

Among his buildings are St. Mary's Episcopal Church, Newport ; St. Patrick's R.C. Church, Dundee ; St. James' Church, Wishart Memorial Church, Ward Road Baptist Church, the Lady Leng Memorial Chapel at Vicarsford Cemetery, and the Airlie Memorial Tower on Tullahill, Cortachy. Mr. Cappon was also responsible for Dundee Training College, and the clubhouses of Panmure and Scotscraig Golf Clubs, Forfarshire Cricket Club pavilion at Forthill, Panmure Arms Hotel, Edzell, and Ramsay Arms, Fettercairn.

He was an active member of the profession in Dundee, and was responsible for the School of Architecture being founded at the Technical College. He was twice President of the Dundee Institute of Architects.

Mr. Cappon was also a member of a large number of local bodies and institutions, and took a keen interest in local administration. During the war he was chief recruiting officer for Dundee, and had previously had a distinguished career in the 1st Volunteer Battalion, Royal Highlanders. In 1935 he published " Then and Now," his memoirs.

J. E. JEFFERSON [*Ret. A.*]

We record with regret the death of Mr. John England Jefferson. He received his training in the office of Mr. Edward Taylor, of York. He worked with Mr. F. W. Tasker for seven years and also with Mr. G. H. Hornblower and Mr. Max Clarke before his appointment in 1904 as architect and surveyor to Messrs. Hoare & Co.

Mr. Jefferson designed the screen and choir stalls at St. Margaret's Church, Stanford-le-Hope, Essex, the choir screen at St. Nicholas Church, Strood, and the war memorial, and retable, screen and reredos in the Lady Chapel at St. Luke's, Bromley Common.

The practice is being continued by Mr. Sidney Charles Clark [*F.*] at 86 Fenchurch Street, E.C.3.

W. B. SAVIDGE [*Ret. A.*]

We record with regret the death on 21 February of Mr. William Brandreth Savidge. He practised from 1906 until his retirement in 1935 at Bromley House, Angel Row, Nottingham. He was secretary 1905-1910 of the Nottingham Architectural Society, and was recently local convener of the Council for the Preservation of Rural England. Mr. Savidge built the Carnegie Library at Nelson, Lancashire.

Notes

APPOINTMENT VACANT

ARCHITECT TO THE PUBLIC WORKS DEPARTMENT, SUVA, FIJI ISLANDS

A post is offered on the permanent staff of the Public Works Department; the salary is £500 by £25 to £600 by £30 to £720. It is a pensionable post and the holder would of course be eligible for promotion to other Colonies offering larger salaries. There is a great deal of leeway to be made up in the buildings in the Colony, where most of the structures are of the wood and iron, Australian-New Zealand "Shack" type. Building costs are very high and the ideal officer would be what one might term an economist-architect.—Application should be made to the Colonial Secretary, The Fiji Islands, Suva, Fiji.

R.I.B.A. DRAMATIC SOCIETY

The next Play Reading of the R.I.B.A. Dramatic Society will take place at 8 p.m. on Monday, 5 June, at 22a Avonmore Road, W.14, by kind invitation of Mr. Gilbert Kendrew. The play to be read is "Pygmalion," by G. B. Shaw.

All members of the Institute are welcome to take part, but they should first get in touch with the Hon. Sec. of the Dramatic Society, care of the R.I.B.A.

C.P.I.A. CONGRESS, WASHINGTON

Members who intend to go to the C.P.I.A. Congress at Washington in September are asked to send their names to the Secretary, R.I.B.A.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. DIPLOMA IN TOWN PLANNING—SYLLABUS

The regulations and syllabus governing the Examination for the R.I.B.A. Diploma in Town Planning have been revised. Copies of the revised regulations and syllabus can be obtained upon application to the Secretary of the R.I.B.A.

Special attention is drawn to the fact that applications for admission to the Examination must, under the new regulations, be made not later than 1 January in each year.

FINAL AND SPECIAL FINAL EXAMINATIONS

The following are the dates on which the forthcoming Examinations will be held:

Final Examination

5, 6, 7, 8, 10, 11 and 13 July 1939. (Last day for receiving applications, 5 June 1939.)

Special Final Examination

5, 6, 7, 8, 10 and 11 July 1939. (Last day for receiving applications, 5 June 1939.)

R.I.B.A. MAINTENANCE SCHOLARSHIPS IN ARCHITECTURE

The R.I.B.A. offers for award in July 1939 Houston Maintenance Scholarships to a total value of £100 in all. The value of the Scholarships will depend on the financial circumstances of the parents or guardians of the candidates. Parents or guardians are required to furnish particulars, on the proper form, of their financial position.

The Houston Maintenance Scholarships are for the purpose of providing educational and maintenance allowances for the sons of architects or artists who may be, or at the time of their death were, in impecunious circumstances, whether such architects or artists are alive or dead.

The Scholarships will be tenable in the first instance for one year, and renewable for two further periods of one year each upon reports of satisfactory progress. The tenure of the Scholarships will depend on the length of time the student has to spend at a school of architecture. Students who are already taking a course at a recognised school are also eligible to apply.

The Scholarships are available for applicants residing in Great Britain.

Particulars and application forms may be obtained on application to the Secretary to the Board of Architectural Education of the Royal Institute of British Architects, 66 Portland Place, London, W.1. The closing date for the receipt of applications, duly completed, is 22 June.

R.I.B.A. EXAMINATIONS FOR THE OFFICES OF DISTRICT SURVEYOR AND BUILDING SURVEYOR

At the R.I.B.A. Statutory Examination for the office of District Surveyor in London, held on 3, 4 and 5 May 1939, the following candidate presented himself and was successful:

Mr. Raymond T. Lenton.

At the R.I.B.A. Examination for the office of Building Surveyor under Local Authorities, held on 3, 4 and 5 May 1939, six candidates presented themselves and the following were successful:—

Mr. James Dufton, Mr. Alan K. Forster, Mr. Philip H. Perkins, Mr. N. C. Sidwell, Mr. Leonard Whitham.

EXAMINATION RESULTS

Owing to pressure on our space it has been impossible to publish these lists before. The students themselves have of course been notified, but the lists are published here as a record.

The Intermediate Examination

The R.I.B.A. Intermediate Examination was held in London, Belfast, Hull, Manchester, Newcastle and Plymouth, from 18 to 24 November 1938.

Of the 219 candidates examined 88 passed and 131 were relegated.

The successful candidates are as follows:—

ADAMS, Bernard Charles; ANDERSON, John Baskerville; BATES, Sidney Henry; BAXTER, Kenneth Martin; BLACKLOCK, John Donald; BOWMAN, Alexander William; BRINDLE, Reginald Smith; BROOME, Stewart; BROWN, James Charles; BUNDY, Kenneth Douglas; BURGOINE, Peter Frederick; CARNEY, John Edward; CARTER, Charles Eric Noel; CARTER, Gordon Ernest; CHANDLER, Leslie; CHEESEMAN, Edwin John; COLE (Miss), Helen Margaret; CROYDON, Frederick William Thomas; DAWES, Harry Louis; DRAPER, Eric William; DRYBURGH, John; EDMED, Frederic Percy; EDWARDS, John Edward Graeme; ENGLAND, Maurice; FINDLAY, James Robert; FLURY, Barry Robert; FORD, Ronald William; FORREST, Frank; FOWKES, Eric Stuart; HAVERS, Norman; HAYDON, George Charles; HAYNES, Geoffrey

Herbert; Hickes, Arthur Clayton Smallwood; Huggins, Frederick Ralph; Hutchinson, Mark Hanley; Ingleby, George Ronald; Jeffery, Leonard; Kent, Peter; Kenyon, John Christopher; Kershaw, Sam; Kirkham, John Kenneth; Kitchen, Clifford Alan; Lane, Ronald Josiah; Larrington, Clifford Talbot; Legerton, Colin Arthur; Lloyd, Francis Henry; Loney, Victor Henry; McKnight, Gordon Kempson; McMullon, Stanley John; McVeigh, William Cleland; Maguire, Desmond Joseph; Mallinson, Leonard; Matthews, Albert Edward; Melland, Guy Seymour; Miller, Ernest James; Mitchell, John; Moon, Charles Peter; Nightingale, George William; Owles, Alan Beaumont; Pearson, Gerald Mascotte; Petty, Anthony; Rampton, Thomas Lewis; Roberts, Keith Hadfield; Scott, John (Jnr.); Silkstone, Ronald; Sims-Hilditch, Thomas; Smith, Albert Edwin; Smith, Herbert Stanley; Smith, Ronald Victor Robert; Snidall, Donald; Southey, Frank Lester; Stansfield, John Cameron Oddy; Taylor, Eric; Terry, Leslie James; Thompson, Cecil Mounsey; Thompson, Kenneth John; Towler, Stanley Lovell; Tregoning, Vivian Angwin; Tugwell, Percival Dennis; Vaughan, Francis Harry; Vincent, James Leonard Schofield; Wallis, Charles James; Whelan, Randolph St. George; Wilkinson, John; Williams, Leonard Percy; Wilson, Harold Edward; Young, Frank William; Young, Leslie.

The Final Examination

The Final Examination was held in London and Edinburgh from 30 November to 8 December 1938.

Of the 204 candidates examined, 131 passed (57 of whom sat fo and passed in Part 1 only, and one of whom sat for and passed in Part 2 only) and 73 were relegated.

The successful candidates are as follows :—

Armstrong, George William (*Part 1 only*); Asbridge, Vincent Barnes; Baldwin, Edward Thomas; Barber, Edward Viccars (*Part 1 only*); Barker, William (*Part 1 only*); Bay, Peter Lauritz Hansen (*Part 1 only*); Bellinger, Clifford; Bent, Ernest Langley (*Part 1 only*); Billing, James Milne Monro; Bradford, William Norris (*Part 1 only*); Briggs, Basil Ian; Broadwater, Herbert James William; Brooks, Raymond Samuel; Buck, Bernard; Bullimore, Gilbert (*Part 1 only*); Burchill, John George (*Part 1 only*); Chaikin, Isaac (*Part 1 only*); Chilton, Edwin Raymond (*Part 1 only*); Christie, Robert James Bayne (*Part 1 only*); Clowes, George Martin (*Part 1 only*); Coburn, Gordon Edwin (*Part 1 only*); Colahan, Donald Campbell (*Part 1 only*); Collington, Frederick William Luther (*Part 1 only*); Councell, Richard Edward Brian (*Part 1 only*); Cowan, Ronald; Creed, Leslie George (*Part 1 only*); Davies, Robert (*Part 1 only*); Davis, Robert Victor (*Distinction in Thesis*); Davison, John; Davison, Norman Francis; Day, Frank; Dolbey, George William; Dootson, Harry; Dorman, Allan; Dowsey, Albert Edward; Duxbury, Leslie; East, Thomas William; Ellis, Thomas Bickerstaff Harper (*Part 1 only*); Evans (Miss), Jessie Maud Morton (*Part 1 only*); Evans, William Hubert; Fairbairn, George William (*Part 1 only*); Fairweather, Geoffrey Hubert (*Distinction in Thesis*); Faulkner, Patrick Arthur (*Part 1 only*); Fisk, Sidney Hubert; Ford, Harry Leslie James; Fowler, Charles Hill; Gear, Arthur Middleton; Goodey, Wilfred (*Part 1 only*); Graham, William Kenneth; Gray, Ronald Peter (*Part 1 only*); Griffiths, Charles Lewis (*Part 1 only*); Gummer, Clifford Walter (*Part 1 only*); Hall, Frederick Edward (*Part 1 only*); Hall, Harry Desmond; Hart, Kenneth (*Part 1 only*); Hayes, Conrad; Hickman, Howard Thomas; Hitch, Harold John; Hobday, Harold Jordain; Hobkinson, George Henry; Holden, John Charles; Holloway, Sidney Malvern (*Part 1 only*); Hughes, Arthur Gordon (*Part 1 only*); Jones, Albert Hugh Dennis; Jones, Aubrey Chave; Jones, Roy Morris; Judson, Harry; Kilner, Lawrence; King, Thomas Edward James (*Part 1 only*); Lack, Kenneth Rivers (*Part 2 only*); Lambert, Ronald (*Part 1 only*); Lewis, John Antony; Lock, William Charles (*Part 1 only*); Longdin, Charles Edward; McClelland, John (*Part 1 only*); McKee, James Roy (*Part 1 only*); Manning, Oliver David George; Marriott, George Henry Gordon (*Part 1 only*); Marston, Sidney Bernard (*Part 1 only*); Maw, Geoffrey Morrison (*Part 1 only*); Milnes-Smith, John Preston; Murphy, Hugh Gregory; North, Lionel Charles; Oram (Miss), Bertha (*Part 1 only*); Owen, Gordon Frederick; Pace, George Gaze; Perryer, Henry Richard Douglas; Peters, John Stuart; Potter, Fred; Powell, Herbert John; Redpath, John Thomas (*Part 1 only*); Rider, Norman Terence; Rohm, Karl Robert; Rossington, Leslie; Russell, Vernon Fletcher (*Part 1 only*); Sandon, Eric Charles Rothwell (*Part 1 only*); Saunders, Kenneth Herbert; Scott, William John; Sidebottom, Percy Brooke (*Part 1 only*); Smith (Miss), Carmen Stella Gregory; Smith, Jack; Smith, Ronald Frederick (*Part 1 only*); Smith, Walter (*Part 1 only*); Stamp, David; Stevens, John Onslow (*Part 1 only*); Taffender, William Clifford; Tarling, Charles (*Part 1 only*); Thompson, Eric Hamilton; Thomson, Walter Roy; Thorp, Charles Richard; Tinto, Peter; Townsend, Cyril Arthur; Vernon, Frank Carlyle; Viney, Thomas Leslie (*Part 1 only*); Vint, George Bramwell (*Part 1 only*); Vowell, Austin James Foster (*Part 1 only*); Vowels, Cyril Edgar; Watkins, Arthur James (*Part 1 only*); Watson, James Fletcher (*Part 1 only*); Watson, Ronald James William (*Part 1 only*); Webster, Douglas Alan Stuart; Webster, Lewis Edward; Wesley, Henry Wellesley; Wheeldon, Cyril Denis; Wilks, John Chapman; Wills, Clifford Gordon (*Part 1 only*); Wilson, Hubert Frank (*Part 1 only*); Wise, Alfred Henry (*Part 1 only*); Witham, William James; Wood, Reginald George (*Part 1 only*); Wright, Roland Keith.

The Special Final Examination

The Special Final Examination was held in London and Edinburgh from 30 November to 6 December 1938.

Of the 60 candidates examined, 31 passed (8 of whom sat for and passed in Part 1 only, and 1 of whom sat for and passed in Part 2 only), and 29 were relegated.

The successful candidates are as follows :—

Alp, William (*Part 1 only*); Ansell, Elwyn Leslie; Baker, James Herbert Alfred; Brice, Castledine Kempton (*Part 1 only*); Callard, Henry William (*Part 1 only*); Fitch, Cyril Henry; Galloway, Norman Reginald; Glover, Archibald William; Hancock (Miss), Mary Dorothea; Helme, Leonard Douglas; Jones, Harry Mansell (*Part 2 only*); Learner, John Francis; Lynch, Joseph Terence; Maitra, Mono Mohan; Manning, Roger Davys; Mathews, Edmund Douglass Jefferiss; Meldrum, Robert Gillespie; Mitchell, Archibald Dale (*Part 1 only*); Muir, Harold John; Murray, Cyril Aubrey; Oram, William Reginald (*Part 1 only*); Platts, Joseph Norman Henry; Preston, Edward Keith (*Part 1 only*); Rhodes, George William; Ross, Eric Louis Genge; Sargent, Edward Tom (*Part 1 only*); Smith, Geoffrey John Stupples; Smith, Leslie Thomas Joseph (*Part 1 only*); Tarn, William; Watkins, Frederick John Bayman; Watt, George.

The Examination in Professional Practice for Students of Schools of Architecture recognised for exemption from the R.I.B.A. Final Examination

The Examination was held in London and Edinburgh on 6 and 8 December 1938. Of the 17 candidates examined, 13 passed and 4 were relegated.

The successful candidates are as follows :—

Bannerman, John; Black, James; Cowie, James Macneil; Hamilton, George Douglas; Kennedy, Robert Ferguson; Lindsay, Archibald Thomas; Lindsay, Walton Holmes; Makins (Miss), Margaret Findlay; Mark, Hugh Stewart; Morrissey, William Oliver Bernard; Reid, John Tweedie (Jnr.); Rowell, James Robert Clunie; Thesiger, Cedric Paul.

MEMBERSHIP LISTS

ELECTION : 8 MAY 1939

In accordance with the terms of Byelaws 10 and 11, the following candidates for membership were elected at the Council Meeting held on Monday, 8 May 1939.

AS FELLOWS (39)

BAKER : CHARLES WILLIAM [*A.* 1892].
BRIDGMAN: GERALD SOUDON [*A.* 1921], Paignton.
BURLEIGH : HAROLD [*A.* 1921], St. Leonards-on-Sea.
BUTTERWORTH : HAROLD, M.A. [*A.* 1920], Manchester.
CARTWRIGHT : THOMAS NELSON [*A.* 1929], Nottingham.
CHANNON : ERIC USHER [*A.* 1921], Plymouth.
CLAYTON : CHARLES LAWRENCE [*A.* 1920], Brighton.
CORFIELD : CLAUD RUSSELL [*A.* 1909], Falmouth.
DYSON : ERNEST VINCENT [*A.* 1919], Doncaster.
EVANS : BENJAMIN EDWARD [*A.* 1925], Llanelly.
FOULKES : SIDNEY COLWYN [*A.* 1916], Colwyn Bay.
GARRETT : SIDNEY COLSTON [*A.* 1918], Brighton.
GOULDER : ARTHUR CHRISTOPHER [*A.* 1906].
GRAYSON : ARTHUR BELLHAM, A.A.Dip. [*A.* 1930], Jersey, C.I.
HORTH : HAROLD EDWIN [*A.* 1921], Hull.
HUGHES : (MISS) ELEANOR KATHARINE DOROTHY [*A.* 1922].
MARCHANT : MAJOR FRANCIS OLIVER, M.C. [*A.* 1919], Eastbourne.
NEWTON : PERCY MAURICE [*A.* 1922], Bridlington.
THOMAS : HUBERT ARTHUR [*A.* 1921], Liverpool.
THOMAS : WILLIAM NORMAN, M.A., D.Phil., M.Sc., M.Inst.C.E. [*A.* 1919], Cardiff.
TUN : THA, B.Sc. (Rangoon), A.A.Dip., A.M.T.P.I. [*A.* 1928], Rangoon.
VERNON : GEORGE [*A.* 1918].
WALKER : BENJAMIN [*A.* 1892], Birmingham.
WARWICK : JAMES GUY [A. 1919], Peterborough.
WILLS : TRENWITH [*A.* 1920].
WINTER : FRANK THOMAS [*A.* 1925].
WYLLIE : WILLIAM BARNET, Major R.A. (T.), T.D. [*A.* 1907], Edinburgh.

And the following Licentiates who have passed the qualifying Examination :—

BOOTH : ARTHUR, Wednesbury.
BROWNE : THOMAS LINDSAY, M.C., Newcastle-on-Tyne.
BURGESS : GERALD EGBERT.
CARR : HERBERT, F.S.I., Welshpool.
CRUMP : THOMAS GRAHAM.
JOHNSON : ALFRED JOHN.
LIMMER : FREDERICK GEORGE, Norwich.
NEWSOME : HAROLD FIRTH VESSEY, Manchester.
OAKLEY : EDMUND, Newcastle-upon-Tyne.
PANTER : PAUL JOHN JAMES, Wellingborough.
RYLAND : GEORGE WILLIAM HENRY, Cheltenham.

And the following Licentiate who is qualified under Section IV, Clause 4 (c) (ii) of the Supplemental Charter of 1925 :—

DEAS : GEORGE BROWN, J.P., F.S.A.(Scot.), M.T.P.I., Kirkcaldy.

AS ASSOCIATES (20)

BEALE : KEITH [Passed five years' course at the Architectural Association. Exempted from Final Examination].
BLESSLEY : ROBERT BRUCE [Passed five years' course at the Architectural Association. Exempted from Final Examination], Brighton.
BULL : WILLIAM RALPH [Passed five years' course at the Architectural Association. Exempted from Final Examination].
FOWLER : JOHN DAVID PATRICK, B.Arch. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Manchester.
GEAR : ARTHUR MIDDLETON [Final].
HARLAND : MICHAEL ANTHONY [Passed five years' course at the School of Architecture, The Polytechnic, Regent Street, London. Exempted from Final Examination], Aldershot.
KIRBY : FRANK EDWARD [Passed five years' course at the School of Architecture, The Polytechnic, Regent Street, London. Exempted from Final Examination].
MILNES-SMITH : JOHN PRESTON [Final].
PEADON : ARTHUR REGINALD [Passed five years' course at the School of Architecture, King's College (University of Durham), Newcastle-upon-Tyne. Exempted from Final Examination], Newcastle-upon-Tyne.
PERRY : NORMAN [Passed five years' course at the Architectural Association. Exempted from Final Examination].
PITCHFORD : KENNETH [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination], Leeds.
QUILLIAM : GEORGE CAMPBELL, B.Arch.(L'pool), Dipl.Civ.Des. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination, Liverpool.
SHERIDAN : JOHN GERARD RICHARD [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Liverpool.
SIMPSON : JOHN CHURCHILL [Passed five year's course at the Architectural Association. Exempted from Final Examination], Durban.
SMITH : DAVID JOHN [Final], Hull.
SYDE : NORMAN PETER, Dip.Arch.(L'pool) [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Birkenhead.
THOMPSON : RAYMOND WALLACE, Dipl.Arch.(Leeds) [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination], Leeds.
VOLLER : RONALD JAMES [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], Sydney.
WARBURTON : NORMAN JOSEPH, B.Arch.(L'pool) [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Liverpool.
WAUGH : EDWARD WALTER RAIL, Dip.Arch.(Edin.) [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], Johannesburg.

AS LICENTIATES (8)

ATKINSON : GEORGE ARNOLD STANLEY.
BETTINGTON : HARRY EDWARD, Hereford.
BOWDEN : LESLIE AINSWORTH.
DAVIES : HAROLD.
RICKETTS : EDWARD ALFRED CLINTON.
RIVETT : MAURICE SYDNEY.
STANILAND : ARCHIBALD WILLIAM, Coventry.
TEE : HERBERT WILLIAM.

ELECTION : 19 JUNE 1939

In accordance with the terms of Byelaws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 19 June, 1939. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Byelaws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Thursday, 1 June 1939.

AS FELLOWS (23)

ANDERTON : RICHARD [*A.* 1914], 6 Kenilworth Gardens, Blackpool. Proposed by Francis Jones, W. A. Johnson and James R. Adamson.
BLACK : KENNETH EASTTY [*A.* 1923], 10 Prince Albert Street, Brighton ; Limemead, Hurstpierpoint, Sussex. Proposed by John L. Denman, Sydney Tatchell and A. J. McLean.
BREWILL : Colonel LIONEL COLIN, T.D. [*A.* 1919], Armitage Chambers, Victoria Street, Nottingham ; Edwalton Valley,

West Bridgford, Notts. Proposed by T. Cecil Howitt, Cyril F. W. Haseldine and A. Ernest Heazell.

CAWKWELL : ROBERT [*A.* 1919], 19 St. James Street, Sheffield 1 ; Cherry Cottage, Parkhead, Sheffield 11. Proposed by W. Geo. Davies, J. Amory Teather and Charles Matthew Hadfield.

EDLESTON : ERNEST HARCOURT [*A.* 1906], Bank Chambers, Nantwich, Cheshire ; 7 Dysart Buildings, Nantwich. Proposed by Robert Martin, Gilbert Fraser and T. Taliesin Rees.

GREEN : CHRISTOPHER, M.A.Oxon. [*A.* 1926], 5 Pickering Place, St. James's Street, S.W.1 ; 1 St. Peter's Square, W.6. Proposed by W. Curtis Green, Edmund Wimperis and W. B. Simpson.

LLOYD : WILLIAM ANTONY SAMPSON, M.A. [*A.* 1926], 5 Pickering Place, St. James's Street, S.W.1 ; 53 Strand-on-the-Green, Chiswick, W.4. Proposed by W. Curtis Green, W. B. Simpson and Edmund Wimperis.

LUYKEN : HENRY MARTIN [*A.* 1916], Gable Mount, South Benfleet, Essex. Proposed by Albert E. Kingwell, Harold F. Walker and David Barclay Niven.

MOBBS : SYDNEY WILFRID [*A.* 1909], 66 Bracondale, Norwich ; "Windrush," Romany Road, Oulton Broad. Proposed by Stanley J. Wearing, Cecil Upcher and Eric W. B. Scott.

SADLER : WILLIAM [*A.* 1922], 43 Bloomsbury Square, W.C.1 ; 30 Ashcombe Avenue, Surbiton, Surrey. Proposed by T. P. Bennett, Arthur J. Davis and Chas. H. Gage.

SELBY : ROBERT BARNEY JACK, A.A.Dip. [*A.* 1932], 48 Dover Street, Piccadilly, W.1 ; Hotel Great Central, Marylebone, N.W.1. Proposed by Gilbert H. Jenkins, J. Alan Slater and L. Rome Guthrie.

SKINNER : CEDRIC GEORGE [*A.* 1921], 27 Orchard Street, College Green, Bristol ; "Green Hedges," Church Lane, Bockwell, Somerset. Proposed by Sir George H. Oatley, J. Ralph Edwards and Harold E. Todd.

SKINNER : THEODORE ARTHUR [*A.* 1920], 27 Orchard Street, College Green, Bristol 1 ; 2 Belgrave Road, Tyndall's Park, Bristol 8. Proposed by Sir George H. Oatley, J. Ralph Edwards and Harold E. Todd.

SOMERFORD : THOMAS RETFORD [*A.* 1912], 20 Berkeley Street, W.1 ; 70 Pulborough Road, S.W.18. Proposed by Cecil Masey, O. Howard Leicester and Briant Poulter.

SOPER : STANLEY GEORGE [*A.* 1915], 22 Surrey Street, Strand, W.C.2 ; "Brockheath," Sutherland Avenue, Orpington, Kent. Proposed by Ernest W. Banfield, W. Fraser Granger and A. C. Bunch.

SWAN : THOMAS AIKMAN [*A.* 1910], 7 St. Colme Street, Edinburgh ; "Glenbervie," Eskbank, Midlothian. Proposed by Leslie Grahame Thomson, Reginald Fairlie and H. O. Tarbolton.

And the following Licentiates who have passed the qualifying Examination :—

BENNETT : JOHN GARRETT, Borough Architect, 5 Woodville Terrace, Gravesend, Kent ; 45 Essex Road, Gravesend. Proposed by Frank M. Kirby, Jno. Stuart and George E. Kendall.

BOND : CLIFFORD, A.M.T.P.I., 71a Low Pavement, Chesterfield, Derbyshire ; "Green Hollow," Brockwell, Chesterfield. Proposed by G. A. Jellicoe and Professor S. D. Adshead and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

GRIFFITHS : GORDON HERBERT, A.M.T.P.I., 1 Pembroke Terrace, Cardiff ; "Alltwen," Rhiwbina, near Cardiff. Proposed by T. Alwyn Lloyd, O. S. Portsmouth and Percy Thomas.

MILNER : SIR WILLIAM F. V. M., M.A.(Oxon.), F.S.A., 5 Racquet Court, Fleet Street, E.C.4 ; Parcevall Hall, Appletrewick, Skipton, Yorks. Proposed by Romilly B. Craze, H. S. Chorley and N. F. Cachemaille-Day.

ROSS : HERBERT REGINALD, 65 Chancery Lane, W.C.2 ; 21 Stewart Avenue, Upminster, Essex. Proposed by C. G. Stillman, H. St. John Harrison and Mrs. Gillian Harrison.

TROWER : THOMAS FRANCIS, Elsom House, Broad Street, Spalding. High Fenn, Pennygate, Spalding. Proposed by Stanley J. Wearing, Eric W. B. Scott and F. H. Swindells.

WAPSHOTT : FRANCIS ELLISS, F.S.I., King Street Chambers, Maidenhead, Berks ; The Thatched Cottage, Boynehill, Maidenhead. Proposed by C. B. Willcocks, W. Roland Howell and T. Talfourd Cumming.

AS ASSOCIATES (15)

BEARDSHAW : JOHN EDWARD [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], 156 Gloucester Place, Dorset Square, N.W.1. Proposed by Professor R. A. Cordingley, Colin Anderson Lucas and C. D. Hawley.

BEATON : JOHN RONALD, Dip.Arch.Abdn. [Passed five years' course at the Aberdeen School of Architecture, Robert Gordon's Technical College. Exempted from Final Examination], Glasgow Corporation, 20 Trongate, Glasgow, C.1. Proposed by John G. Marr, A. G. R. Mackenzie and R. Leslie Rollo.

FOYLE : ARTHUR MONTAGUE [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], 12 Ridley Road, N.W.10. Proposed by Professor A. E. Richardson, H. Lidbetter and Matthew Dawson.

HARTNELL-BEAVIS : FRANCIS JOHN [Passed five years' course at the Architectural Association. Exempted from Final Examination], c/o Sir Herbert Baker & A. T. Scott, Romney House, Marsham Street, Westminster, S.W.1. Proposed by Alex T. Scott, Sir Herbert Baker and David Robertson.

HUNTER : ARNOLD MCKENZIE, Dip.Arch.Edin. [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], 20 Gordon Street, W.C.1. Proposed by Leslie Grahame Thomson, A. Bulloch and Chas. Whitby.

LEWIS : PETER HUMPHREY [Passed five years' course at the Architectural Association. Exempted from Final Examination], Cavenham, Woking. Proposed by H. Rogers Houchin and the President and Hon. Secretary of the Architectural Association under the provisions of Byelaw 3(*b*).

MARK : HUGH STEWART [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination], 10 Ailsa Place, Ayr, Ayrshire. Proposed by T. Harold Hughes, William J. Smith and John Armour.

MARTIN : JOHN EDWARD [Passed five years' course at the Aberdeen School of Architecture, Robert Gordon's Technical College. Exempted from Final Examination], Messrs. Tawse & Allan, 10 Bon-Accord Square, Aberdeen. Proposed by R. Leslie Rollo, James B. Nicol and John G. Marr.

OWEN : DAVID BRASIL, Dip.Arch.Cardiff [Passed five years' course at the Welsh School of Architecture, The Technical College, Cardiff. Exempted from Final Examination], The Town Hall, Newport, Mon. Proposed by W. S. Purchon, Chas. F. Ward and Percy Thomas.

PICKUP : GEOFFREY, Dip.Arch.,Dip.T.P.(Mancr.) [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], 24 Stanley Road, Sheffield, 1. Proposed by Professor R. A. Cordingley, C. Gustave Agate and Professor Patrick Abercrombie.

SCOTT : THOMAS KEY, Dip.Arch.Manchester [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], Messrs. F. Thorpe & Whyman, Church Lane, Oldham. Proposed by Professor R. A. Cordingley, Harry S. Fairhurst and Fred. Thorpe.

TEW : ERNEST FREDERICK [Passed five years' course at Glasgow School of Architecture. Exempted from Final Examination], Architect's Department, Town Hall, Blackburn, Lancs. Proposed by Alexander N. Paterson, T. Harold Hughes and T. E. Eccles.

TOMALIN : ROGER RIDLEY [Passed five years' course at the Architectural Association. Exempted from Final Examination], Hazelglen, Sanderstead, Surrey. Proposed by Paul V. Mauger and the President and Hon. Secretary of the Architectural Association under the provisions of Byelaw 3 (*b*).

TOMLINSON : JACK, Dip.Arch.L'pool [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Town Hall, Beckenham, Kent. Proposed by Professor Lionel B. Budden, F. X. Velarde and J. E. Marshall.

WILLIAMS : FRANCIS CLIFTON [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], c/o Messrs. Norman Jones & Rigby, 271 Lord Street, Southport. Proposed by Norman Jones, George E. Tonge and Albert Schofield.

AS LICENTIATES (5)

GRAY : ALEXANDER STUART, 11 Waterloo Place, S.W.1 ; 15 Brookland Hill, N.W.11. Proposed by W. H. Watkins, Stanley Hamp and Lionel G. Pearson.

HARVEY : DUNCAN, 96 New Cavendish Street, W.1 ; 22 Conduit Street, W.1 ; 121a Greencroft Gardens, N.W.6. Proposed by C. Beresford Marshall, Charles T. Marshall and W. Tweedy.

HENZELL-ASCROFT : FREDERIC NORMAN WHALLEY, Architects' Department, County Hall, S.E.1 ; 118 Elmstead Gardens, Worcester Park, Surrey. Proposed by Maurice E. Webb, Fredk. R. Hiorns and Edwin Williams.

HIVES : ERIC GEORGE VINAN, Abbey Corner, 2a King's Road, Reading ; Olde Dormer Cottage, Pound Lane, Sonning, Berks. Proposed by A. H. Powell, Victor Wilkins and W. David Hartley.

PALMER : ELIAS WILLIAM, Clock Chambers, London Road, Enfield ; 15 Queen Annes Grove, Bush Hill Park, Enfield. Proposed by P. T. Wilsdon, F. Q. Farmer and Hylton B. Elkington.

ELECTION OF STUDENTS R.I.B.A.

The following were elected as Students R.I.B.A. at the meeting of the Council held on 3 April 1939.

Aglen (Miss) Elizabeth Senga, *Perthshire*. Benington, Philip, Humphrey, *Salford*. Benington (Miss) Prudence Elinor Mary *Salford*. Benson (Miss) Betty Christine, *Sheffield*. Brown, Reginald Wallace William, *North Wembley*. Butler (Miss) Eleanor Grace, *Dublin*. Clifton, Philip Ernest, *London*. Cordiner, Norman Case, *Aberdeen*. Hall, Vinton, *Sunderland*. Hardman, Charles Norton, *Barnsley*. Inglis, Alick Walter Gordon, *Fife*. James, Harold Hastings William Balfour, *Wimbledon*. Kauffmann, Edward Crompton, *London*. Kemp, Ronald George, *Southgate*. McCormick, John, *Glasgow*. Paterson, Ian Watson, *Aberdeen*. Pointon-Taylor, Peter Gilford, *Harrow-on-the-Hill*. Rheinberg, Eric, *Wembley Park*. Taylor, Percy, *Liverpool*. Young, John Samuel Auckland, *Manchester*.

R.I.B.A. PROBATIONERS

The following were enrolled as Probationers of the Royal Institute during the month of April 1939 :—

Athill, Alan Hubert, *London*. Ayton, Francis Herbert, *Newcastle-on-Tyne*. Bean, Norman Stewart, *Hull*. Brandt, Arnulf Johannes, *London*. Bunday, Horace George Walter, *Portsmouth*. Chew, Tomas Walter, *Bradford*. Dawes, Alan Trevor, *Derby*. Elliott, Patrick Arthur, *London*. Green, Frank, *London*. Harvey, Patrick Neville Leigh, *Hampton-on-Thames*. Haslam, William, *Carlisle*. Hayden, James, *London*. Hill, Raymond, *Murton, Co. Durham*. Holderness, Neville Ross, *Hull*. Lacey, William Daniel, *Swansea*. Lovell, Dion Clifton, *London*. Martin, Peter Hugh Cox, *Chaldon, Surrey*. Martin, Roger Anthony, *Tolworth*. Newham, Philip Henry, *Loughborough*. Robertson, Robert Meldrum, *Bellshill, Lanarks*. Rowe, Robert Stewart, *Richmond Hill*. Smuts, David Adrian Ferris, *Cambridge*. Swindale, George Ernest, *Nottingham*. Whitaker, George Harry, *Leeds*.

Notices

THE TWELFTH GENERAL MEETING, MONDAY, 19 JUNE 1939, AT 8 P.M.

The Twelfth General Meeting of the Session 1938-1939 will be held on Monday, 19 June 1939, at 8 p.m., for the following purposes :—

To read the minutes of the One Hundred and Fifth Annual General Meeting held on 8 May 1939 ; formally to admit new members attending for the first time since their election.

To read the report of the Scrutineers appointed to examine the voting papers for the election of the Council for the Session 1939-1940.

INFORMAL DISCUSSION OF MATTERS OF PROFESSIONAL INTEREST

At the conclusion of the above General Meeting there will be an informal and private discussion on matters of current professional interest or concern. Members are invited to bring up for discussion, with or without notice, subjects of professional interest or difficulty.

JOHN SELL COTMAN

An Exhibition of the collection of architectural drawings and water-colours by John Sell Cotman, bequeathed to the R.I.B.A. by Mr. Sydney Kitson, F.S.A., [*F.*], will be held in the Henry Florence Hall at the R.I.B.A. from Wednesday, 7 June, to Wednesday, 28 June, inclusive. The Exhibition will be open each day, Sundays excepted, from 10 a.m. to 8 p.m. (Saturdays 10 a.m. to 5 p.m.).

THE LATE SIR GUY DAWBER

An Exhibition of water-colours and architectural sketches by the late Sir Guy Dawber, R.A., F.S.A., Past President R.I.B.A., will be held at the R.I.B.A. from Wednesday, 7 June to Saturday, 17 June inclusive. The Exhibition will be open daily (Sunday excepted) from 10 a.m. to 8 p.m. (Saturdays 10 a.m. to 5 p.m.).

ARBITRATORS' FEES : REVISION OF THE R.I.B.A. SCALE OF CHARGES

The Council have approved a recommendation of the Practice Committee that the following paragraph should be added to Clause 4 of the Scale of Charges :—

> Architects acting as Arbitrators are recommended to base their charges upon the total time occupied in dealing with a case at the rate of £2 2s. an hour exclusive of out-of-pocket expenses and other disbursements.

In accordance with Byelaw 38 the Council give notice that this addition will be confirmed by them at their meeting on 19 June 1939, subject to consideration of any comments or criticisms which may be received from members. Such comments or criticisms should, in accordance with the above-mentioned Byelaw, be submitted within 14 days of the date of issue of this JOURNAL.

THE ELECTION OF THE R.I.B.A. COUNCIL

Members are reminded of the resolution passed by the Council in April 1936 disapproving the canvassing for votes at R.I.B.A. Council elections.

THE R.I.A.I. CENTENARY CELEBRATION AND ARCHITECTS CONFERENCE, DUBLIN 21-24 JUNE 1939

Final arrangements for all the events of the Conference are now being made. It is hoped that all members and students who have not already done so will at once refer to the programme sent to them with the last issue of the JOURNAL

and send in their names without delay for such of the events as they desire to take part in.

Members of the R.I.B.A. and the Allied Societies who are officials of local authorities will be cordially welcomed as delegates to the Conference.

TRAVEL FACILITIES

Arrangements have been made with the various railway companies to issue return tickets to Dublin, available for one calendar month from the date of issue, at the ordinary single fare and one-third for the double journey. The concession will apply from all stations in Great Britain and Ireland and to the Irish ports by railway-owned steamers and the boats of the following independent steamship companies :—

Belfast Steamship Company.
British and Irish Steam-Packet Company.
City of Cork Steam-Packet Company.
Messrs. Burns & Laird Lines, Ltd.

Members and their friends who desire to take advantage of this special reduced fare concession must present at the booking office a signed voucher to be previously obtained from the Secretary R.I.B.A.

THE R.I.B.A. KALENDAR 1939-1940

The attention of members is drawn to the leaflet enclosed with this issue of the JOURNAL. Changes of address, etc., for inclusion in the forthcoming issue of the *Kalendar* must be notified to the Secretary R.I.B.A. BEFORE SATURDAY, 1 JULY.

THE USE OF TITLES BY MEMBERS OF THE ROYAL INSTITUTE

In view of the passing of the Architects Registration Act 1938, members whose names are on the Statutory Register are advised to make use simply of the title "Chartered Architect" after the R.I.B.A. affix. The description "Registered Architect" is no longer necessary.

Members who are qualified for registration and have not already done so are reminded of the importance of applying for such registration without delay. Full particulars will be sent on application to the Secretary R.I.B.A.

SPECIFICATIONS PREPARED BY QUANTITY SURVEYORS

The representatives of the Chartered Surveyors' Institution on the Joint Committee of Architects and Quantity Surveyors have drawn the attention of the Joint Committee to the practice of the quantity surveyor preparing the detailed specification instead of the architect doing so.

It is pointed out that while senior quantity surveyors in many cases are not only prepared, but prefer to write the detailed specification for the larger job—the architect supplying the necessary heads—it is rather unfair to expect the younger members of the quantity surveying profession to prepare specifications for small jobs without additional fee. In fact, they cannot afford to do so.

The Joint Committee referred the matter to the Practice Committee, who wish to point out to members that it is one of the architect's duties under the Scale of Charges to prepare the detailed specification and that if he arranges with the quantity surveyor to do this work for him he must be prepared to reimburse the quantity surveyor accordingly.

ROYAL INCORPORATION OF ARCHITECTS IN SCOTLAND ANNUAL CONVENTION 1939

The Annual Convention of the Royal Incorporation of Architects in Scotland will be held within the area of the Edinburgh Architectural Association on Friday and Saturday, 2 and 3 June 1939, at Peebles.

LICENTIATES AND THE FELLOWSHIP

By a resolution of the Council passed on 4 April 1938, on and after 1 January 1939 all candidates whose work is approved will be required to sit for the examination, which will be the design portion of the Special Final Examination, and no candidates will be exempted from the examination.

NOTE.—The above resolution will not affect Licentiates of over 60 years of age applying under Section IV, Clause 4 (c) (ii) of the Supplemental Charter of 1925.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 23 October 1939 (overseas candidates 6 November) they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 1 July 1939

CESSATION OF MEMBERSHIP

Under the provisions of Byelaw 21 the following has ceased to be a member of the Royal Institute :—

As Fellow :

Henry Davidge-Pitts.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions modifications of the R.I.B.A. Regulations may be approved it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A. immediately, submitting particulars of the competition. This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

AUCKLAND, NEW ZEALAND : NEW CATHEDRAL

The General Trust Board of the Diocese of Auckland invite members of the New Zealand Institute of Architects resident in New Zealand or overseas to submit in competition designs for a new Cathedral.

Assessor : Sir Giles Gilbert Scott, R.A. [*F.*].
Premiums : £1,000, £400, £200 and £100.
Last day for submitting designs : 15 November 1939.
Last day for questions : 31 May 1939.

Conditions of the competition may be obtained on application to (*a*) The General Trust Board, P.O. Box 652, Auckland, New Zealand, or (*b*) The Secretary R.I.B.A., 66 Portland Place, London, W.1. Deposit £1 1s.

CONSETT, CO. DURHAM : NEW COUNCIL OFFICES

The Consett Urban District Council invite Chartered and/or Registered Architects of British nationality to submit in competition designs for new Council Offices to be erected on a site in Market Square.

Assessor : Mr. R. Norman MacKellar [*F.*].
Premiums : £150, £100 and £75.
Last day for submitting designs : 15 June 1939.
Last day for questions : 4 March 1939.

DUDLEY : NEW MIXED SENIOR SCHOOL

The County Borough of Dudley Education Committee invite architects with offices in Warwickshire, Worcestershire, Herefordshire, Shropshire and Staffordshire to submit in competition designs for a new mixed senior school to be erected on a site at Halesowen Road, Netherton.

Assessor : Mr. S. N. Cooke [*F.*].
Premiums : £150, £100 and £50.
Last day for submitting designs : 31 August 1939.
Last day for questions : 30 June 1939.

Conditions of the competition may be obtained on application to the Director of Education, Education Offices, St. James's Road, Dudley. Deposit £1 1s.

EDINBURGH : NEW EXHIBITION HALL

The Lord Provost, Magistrates and Council of the City of Edinburgh invite architects in association with consulting engineers, both resident in Great Britain, to submit in competition designs for an Exhibition Hall, to be erected on the site of the present Waverley Market, Princes Street, Edinburgh.

Assessor : Mr. Thomas S. Tait [*F.*].
Premiums : 500 guineas, 300 guineas and 200 guineas.
Last day for submitting designs : 31 August 1939.
Last day for questions : 15 February 1939.

HUTTON, NEAR PRESTON, LANCS : NEW POLICE HEADQUARTERS

The Lancashire Standing Joint Committee for Police and other purposes invite Chartered and/or Registered architects to submit in competition designs for a new General Police Headquarters and Training School to be erected at Hutton, near Preston.

Assessor : Sir Percy Worthington, Litt.D., F.S.A. [*F.*].
Premiums : £500, £400 and £300.
The last day for submitting designs has been extended to 1 August 1939.
Last day for questions : 28 January 1939.

LAGOS, NIGERIA : NEW SUPREME COURT HOUSE

The Government of Nigeria invite architects of British nationality and resident in Great Britain and Africa who are members of the R.I.B.A. or of its Allied Societies to submit in competition designs for new Supreme Courts in Lagos, Nigeria.

Assessor : Mr. A. F. B. Anderson [*F.*].
Premiums : £500, £300 and £200.
Last day for submitting designs : 30 June 1939.
Last day for questions : 14 February 1939

MARGATE : NEW CIVIC CENTRE

The Corporation of the Borough of Margate invite architects of British nationality who are members of the R.I.B.A. or its Allied Societies to submit in competition designs for a new Civic Centre to be erected on a site overlooking Hartsdown Park, Margate.

Assessor : Mr. A. F. B. Anderson [*F.*].
Premiums : £500, £300 and £200.
Last day for submitting designs : 31 August 1939.
Last day for questions : 31 March, 1939.

OLDHAM : NEW ELECTRICITY OFFICES

The Corporation of the County Borough of Oldham invite registered architects to submit in competition designs for new Offices and Departmental Buildings for the Electricity Department to be erected on a site in Union Street.

Assessor : Professor R. A. Cordingley [*F.*].
Premiums : £400, £250 and £100.
Last day for submitting designs : 4 October 1939.
Last day for questions : 5 June 1939.

Conditions of the competition may be obtained on application to Mr. F. L. Ogden, Borough Electrical Engineer, Greenhill Offices, Oldham. Deposit £2 2s.

FORTHCOMING COMPETITIONS

Other competitions which it is proposed to hold, and the conditions for which are not yet available, are as follows :—

BRIGHOUSE : NEW MUNICIPAL BUILDINGS
Assessor : Mr. James R. Adamson [*F.*].

EDMONTON : NEW TOWN HALL BUILDINGS
Assessor : Mr. E. Berry Webber [*A.*].

GOSPORT : NEW SENIOR BOYS' SCHOOL
Assessor : Mr. Julian R. Leathart [*F.*].

WREXHAM : NEW TOWN HALL
Assessor : Mr. Herbert J. Rowse [*F.*].

MEMBERS' COLUMN

Owing to limitation of space, notices in this column are restricted to changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and appointments vacant. Members are reminded that a column in the Advertisement Section of the Journal is reserved for the advertisements of members seeking appointments in architects' offices. No charge is made for such insertions and the privilege is confined to members who are definitely unemployed.

PARTNERSHIP OFFERED

PARTNERSHIP is offered in a busy West Country city practice. Premium required.—Box 1159, c/o Secretary R.I.B.A.

RETIREMENT FROM PRACTICE

MR. ERNEST G. HEATHCOTE [*F.*], sole remaining partner of the firm of Chas. Heathcote & Sons, which was founded by the late Mr. Chas. Henry Heathcote in the '70's, has decided to close down the office forthwith and to retire from any active part in the profession. He would be glad if friends in the profession whom he has not notified personally will forgive the omission to do so.

ASSISTANT REQUIRED

ARCHITECT engaged on University hospital, church and similar work and having connections England, requires assistant for Belfast office.—Reply, with copies of testimonials, stating age, training, experience and salary, to Box 1259, c/o Secretary R.I.B.A.

PARTNERSHIP WANTED

ASSOCIATE (36) with capital available would like to join well-established firm in England or abroad as a partner. Thoroughly conversant with public and private building and in monumental town planning.—Box 1559, c/o Secretary R.I.B.A.

OFFICE ACCOMMODATION WANTED

ASSOCIATE with small country practice requires room in architect's office near Victoria or Cannon Street stations. Moderate rent.—Reply Box 1659, c/o Secretary R.I.B.A.

OFFICE ACCOMMODATION TO LET

OFFICE to let in South-West District. £17 10s. per quarter, or with use of clerk, telephone, etc., approximately £27 per quarter.—Reply Box 1359, c/o Secretary R.I.B.A.

TRAVELLING COMPANION WANTED

YOUNG MAN with architectural travelling studentship would like to find a companion for a European tour to be undertaken this vacation.—Apply Box 1759, c/o Secretary R.I.B.A.

CHANGE OF ADDRESS

MR. ERIC A. DAY'S [*A.*] addresses are now as follows : Messrs. Adie, Button & Partners, 30 St. George Street, Hanover Square, W.1. ; and 43 Edmunds Walk, Deansway, Finchley, N.2.

MINUTES XIII

SESSION 1938-1939

At the one hundred and fifth annual general meeting, held on Monday, 8 May 1939, at 8 p.m.

Mr. H. S. Goodhart-Rendel, president, in the chair.

The meeting was attended by about 80 members.

The Acting Hon. Secretary announced that the minutes of the tenth general meeting held on 24 April 1939 were being published in the JOURNAL, and they were taken as read, confirmed and signed as correct.

The Acting Hon. Secretary announced the decease of :—

Walter James Waldie Forbes, elected Fellow 1933. Mr. Forbes was a member of the firm who were awarded the R.I.B.A. Architecture Bronze Medal for Western Australia 1935.

Alfred Robert Linus Wright, elected Fellow 1931. Mr. Wright was Deputy Hon. Secretary R.I.B.A. for Western Australia.

Andrew Duncan Kellock, elected Associate 1919.

Richard Alfred Rogers, elected Licentiate 1931.

George Frederic Turner, M.B.E., transferred to Licentiateship 1925.

And it was resolved that the regrets of the Institute for their loss be entered in the minutes, and that a message of sympathy and condolence be conveyed to their relatives.

The following members attending for the first time since their election were formally admitted by the President :—

Fellows	W. Noel Moffett
Stanley Blount	H. G. Murphy
W. H. Cowlishaw	Gordon Tait
H. de Colleville	W. R. Thomson
T. Henson Robinson	*Licentiates*
Associates	Cyril V. Dancey
C. H. Fowler	L. C. C. Jones
Miss D. Elizabeth Iles	L. Rushton

The President formally presented and moved the adoption of the report of the Council and Committees for the official year 1938-1939.

The Acting Hon. Secretary seconded the motion, and a discussion ensued.

The motion having been put from the chair, it was resolved that the report of the Council and Committees for the official year 1938-1939 be approved and adopted.

The President stated that the list of attendances at the Council meetings had been laid on the table and would be printed in the next issue of the JOURNAL and also sent out to members with the voting papers.

On the motion of the President, a vote of thanks was passed by acclamation to Mr. Robert W. Pite [*F.*] and Mr. J. Maclaren Ross [*A.*] for their services as hon. auditors for the past year.

Mr. J. Maclaren Ross [*A.*] and Mr. J. D. Hossack [*F.*] were nominated for election as hon. auditors for the ensuing year of office.

The proceedings closed at 9.35 p.m.

Architects' and Surveyors' Approved Society

ARCHITECTS' ASSISTANTS' INSURANCE FOR THE NATIONAL HEALTH AND PENSIONS ACTS

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 113 High Holborn, London, W.C.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which, in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

In addition to the usual sickness, disablement and maternity benefits, the Society makes grants towards the cost of dental or optical treatment (including provision of spectacles).

No membership fee is payable beyond the normal Health and Pensions Insurance contribution.

The R.I.B.A. has representatives on the Committee of Management, and insured Assistants joining the Society can rely on prompt and sympathetic settlement of claims.

Architects' Benevolent Society

66 PORTLAND PLACE, W.1

FOUNDED 1850

The object of the Society is to afford assistance to architects, architects' assistants, and their widows and children by means of grants and pensions.

Subscriptions and donations of any amount are urgently needed. An annual subscriber of £1 1s. is entitled to recommend annually two applicants for relief.

A.B.S. INSURANCE DEPARTMENT

THE ARCHITECTS' SPECIAL MOTOR CAR INSURANCE AT LLOYD'S

In conjunction with a firm of Lloyd's Insurance Brokers the Architects' Benevolent Society's Insurance Committee have devised a Special Motor Car Policy for Architects. This policy and the special advantages to be gained from it are available only to members of the Royal Institute of British Architects and its Allied and Associated Societies.

Special features include :

1. *Agreed values.* In the event of a total destruction or loss, insured value is agreed as the replacement value.
2. A cumulative no-claim bonus from 15 per cent., rising to 33⅓ per cent. in the fourth year.
3. No extra premium for business use of car by the insured in person.
4. Free manslaughter indemnity up to £250.
5. Free cover for loss of luggage, rugs, etc., up to £20.

SPECIMEN RATES FOR FULL COMPREHENSIVE POLICIES ARE GIVEN BELOW. OTHER RATES QUOTED ON APPLICATION

	Premium £ s. d.
7 h.p. Austin, valued at £100	10 15 0
9 h.p. Standard, valued at £100	11 10 0
11 h.p. Morris, valued at £150	12 5 0
20 h.p. Hillman, valued at £300	16 5 0

(The rates shown do not apply to cars garaged in London and Glasgow and Lancashire manufacturing towns; rates for these areas will be quoted on application.)

All enquiries with regard to the Special Motor Car Policy for Architects should be sent to the Secretary, A.B.S. Insurance Department, 66 Portland Place, W.1.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

Members sending remittances by postal order for subscriptions of Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A. and crossed.

Members wishing to contribute notices or correspondence must send them addressed to the Editor not later than the Tuesday prior to the date of publication.

Back numbers of the JOURNAL can be obtained at the price of 1s. 9d., including postage throughout the world. For orders of more than six copies discounts are given. Orders must be prepaid.

R.I.B.A. JOURNAL

DATES OF PUBLICATION. — 1939. — 12, 26 June; 17 July; 14 August; 18 September; 16 October.